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KEEPING PHYSICALLY FIT

COMMON-SENSE EXERCISES FOR THE WHOLE FAMILY

BY

WILLIAM J. CROMIE

Instructor in Physical Education, University of Pennsylvania;
Director of the Summer School Courses in Physical Education, University of Pennsylvania;
Author of "Medicine Ball Exercises," "Single Stick Exercises," etc.

WITH ILLUSTRATIONS

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1916

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PREFACE

In 1909 "The Saturday Evening Post" published an article on "Fifteen Minutes Daily Invested for Health," and in 1911 "The Outlook" printed a paper "Investing for Health."

The commendatory letters, together with those seeking advice and additional information, as a result of these two manuscripts, from all parts of the United States and many foreign countries, has impelled me to write a series of articles on "Common-sense Exercise for Every Member of the Household." These, together with an article on physical fitness, were written and published in "The Outlook." The chapter on "Deep-breathing" was published in "Life and Health."

After the publication of these papers they were extensively enlarged and revised and are now included in this volume in order that they may have a wider circulation and more permament form.

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KEEPING PHYSICALLY FIT

"Sloth, like rust, consumes faster than labor wears."

Franklin.

"Nature knows no pause, and attaches a curse upon all inaction."

Goethe.

"To live long it is necessary to live slowly."

Cicero.

"It is part of the cure to wish to be cured."

Seneca.

"'Tis the mind that makes the body rich."

Shakespeare.

"The weaker the body the more it commands; the stronger the more it obeys."

Rousseau.

KEEPING PHYSICALLY FIT

CHAPTER I

EXERCISE FOR THE BUSY MAN

WOULD you, Mr. Busy Business or Professional Man, believe that you can gain and maintain physical efficiency by devoting but eight of the 1,440 minutes of each day to simple common-sense physical exercise? Well, whether you believe it or not, I shall go on record for making such a claim. If you will meet me half-way by following the instructions contained in this article, I shall by your own verdict at the end of one month prove my assertion.

Who Needs Exercise?

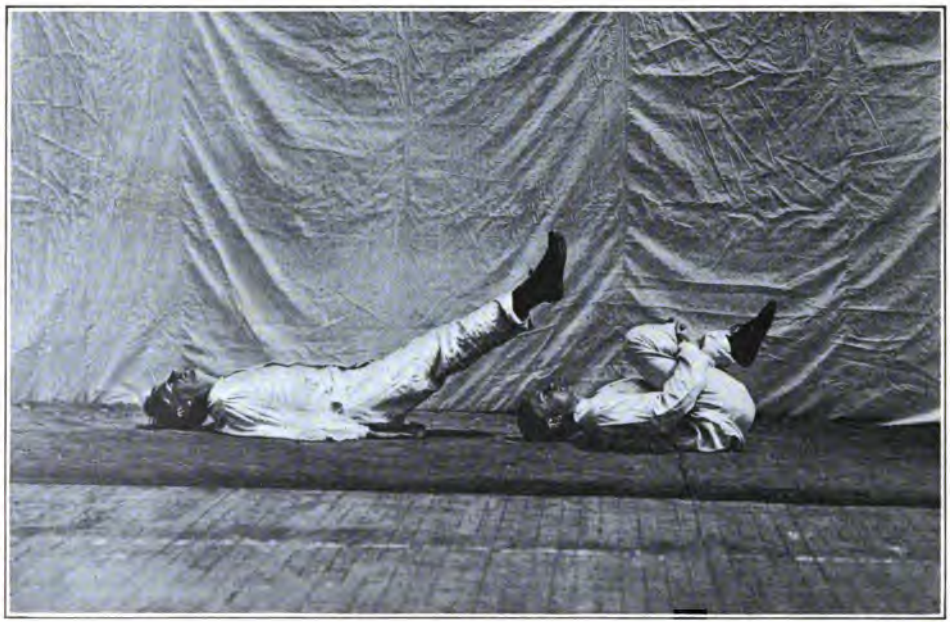
Every one, from the strongest athlete down to the bedridden invalid, needs a certain amount of muscular exercise. If one can do no more than practice deep breathing, then he should do so in order to assist nature in regaining his health and strength. The man

A B

FIG. 1.—THE WALKING EXERCISE

To the left is A, walking with bent knees. Walk from the bed room to the bath room every morning for two or three weeks as in position A, then endeavor to walk with *unbent knees* as in position B.

who needs physical training most is he whom I addressed in opening this article, he who in his daily vocation performs much mental work, uses the mental machine almost to the exclusion of the muscular—who should aim to secure a little muscular exercise every day. He who teaches in school, he who works in the bank, the office, or leans all day over the drawing-board, will surely deteriorate physically and mentally if exercise is neglected persistently. One who keeps a high pressure of steam in his mental boiler and who fails to provide a safety-valve in the form of exercise is in constant danger of becoming a victim of nervous prostration, sleeplessness, indigestion, anæmia. He sees the world through blue glasses, contracts colds more frequently, and, on account of the faulty elimination of impurities which accumulate in the system, rheumatism and other ailments become manifest. On account of vitiated air in the office the busy brain-worker is more subject to constitutional disease, such as tuberculosis and pneumonia, than the outdoor worker, and he needs exercise in order to combat the tendency and danger of these diseases. The man working in the mill, the shop, or the factory gets



A B

FIG. 2.—THE LEG LIFT

Lie on the back on the floor. Raise the legs as in A. Pull them in close to the chest as in B. Straighten them as in A, and lower to floor.

muscular exercise; but, as it is usually confined to a certain group of muscles, and often performed in a cramped, unnatural position, he consequently needs physical training in order to strengthen and develop parts and to correct poor posture.

Objections

When the busy man is approached regarding the taking of exercise, he usually has or invents an excuse. The most common objection is, "I am too busy." If you are sincere in that statement, Mr. Busy Man, if it is not that you are too indolent, then I wish to say that you are making the mistake of your life.

A dentist who attended a business men's class in a gymnasium for several years, in a Young Men's Christian Association where I was physical director, discontinued with the excuse that his patients were becoming so numerous that he must work evenings. He acknowledged that exercise was keeping him "fit as a fiddle," but he must make money while he was strong and vigorous in order to provide for the proverbial rainy day. I expostulated with him on the ground that wealth without health was of little value; like a good

the one hundred and eighteenth part
order to build a bulwark of pro-
inst the insidious inroads of sickness

ll the exercise I need in my daily
ays another busy man. This is a
use business of whatever form is
ical exercise, in order to be of the
efit, requires absolute freedom of
om business cares and the use of
a manner entirely different from
led in daily work.

ars ago I had a physician friend
rved was being sadly overworked
eded some form of physical exer-
st ridiculed the suggestion that he
or some other mild form of exer-
that he got more than he needed
sion by walking and making calls.
himself upon the sturdiness and en-
his ancestry and claimed that he
e same virile tenacity of resisting
disease.

ed him that, notwithstanding my
were of the same virile type, still
se up during the spring after a
eason's work or suffer with a case

of nerves. He contended that he did not know the meaning of the word "nerves"; that only introspective and trouble borrowing persons were afflicted with neurotic conditions and that he belonged in the "Steve Brodie" class.

Scarcely a year after this conversation he one day collapsed in the street and took an enforced rest for several months at the seashore. His proud boast afterward was that it required three physicians to accomplish the work he had been doing.

Every mental or sedentary worker should have the steady influence of some harmless fad or sport dissociated from business or profession, and I can suggest none better than some kind of pleasurable activity. This may take the form of walking, playing golf or tennis, gardening, raising chickens, or performing exercises such as are described in this article. Whatever it is, seek it as a pleasant recreation; put your whole heart into it and make of it a hobby.

A man who has passed middle age makes the objection, "I do not like exercise, because I tire more easily than I used to. If I go upstairs very fast, I become breathless and my pulse throbs in my temples painfully. What would

A B

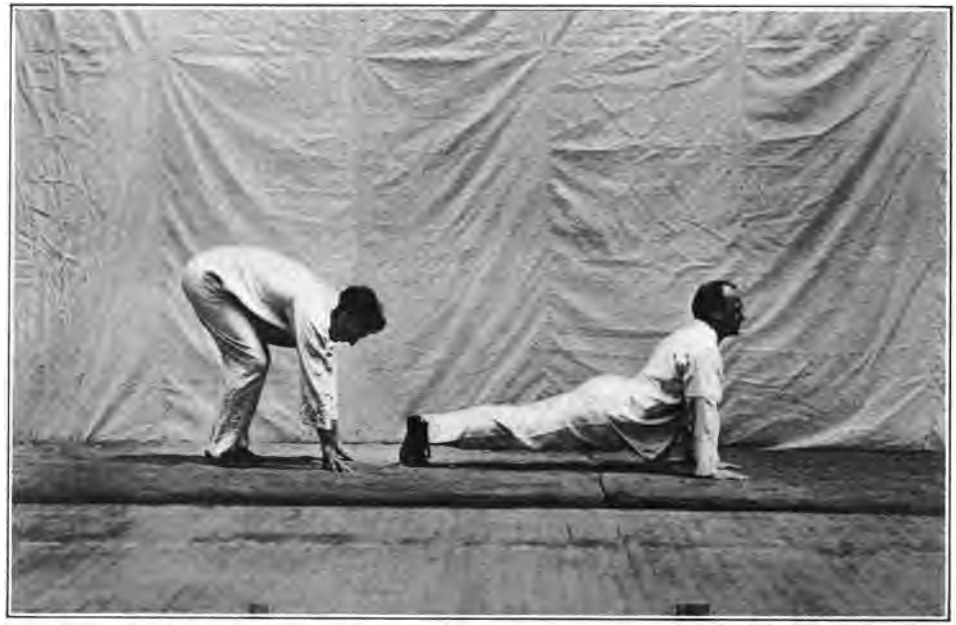
FIG. 3.—THE ROLLING EXERCISE

Sit on the floor as in A. Keep knees stiff. Reach forward and touch feet, then roll backward as in B. From position B, lower legs to floor, then raise body to position A.

be the use in my exercising, as I am too old and heavy to come back?" It is the lack of exercise and wrong habits of living that have brought about these conditions. In early life an excess of nutrition is well borne on account of much muscular activity. As a man becomes less active, the need for food should diminish, but the habit of eating heartily continues, and often grows apace.

The result is a steady departure from the proper balance of waste and repair. Depending on the amount of exercise taken, the food supply should be cut down after forty years of age, and the proportion of meat in the dietary greatly reduced. Meat is seldom required more than once a day, and intoxicating liquors never. The drinking of alcohol is no more necessary to human well-being and contentment than the drinking of chloroform, ether, or gasoline. One is never too old to exercise; because, if he is not too old to eat, then he is not too old to exercise in order to help digest and assimilate the food eaten.

Another objection to exercise is that some big-muscled men are unhealthy, which in some cases is only too true. Lifting heavy weights and performing exercises which occasion strain

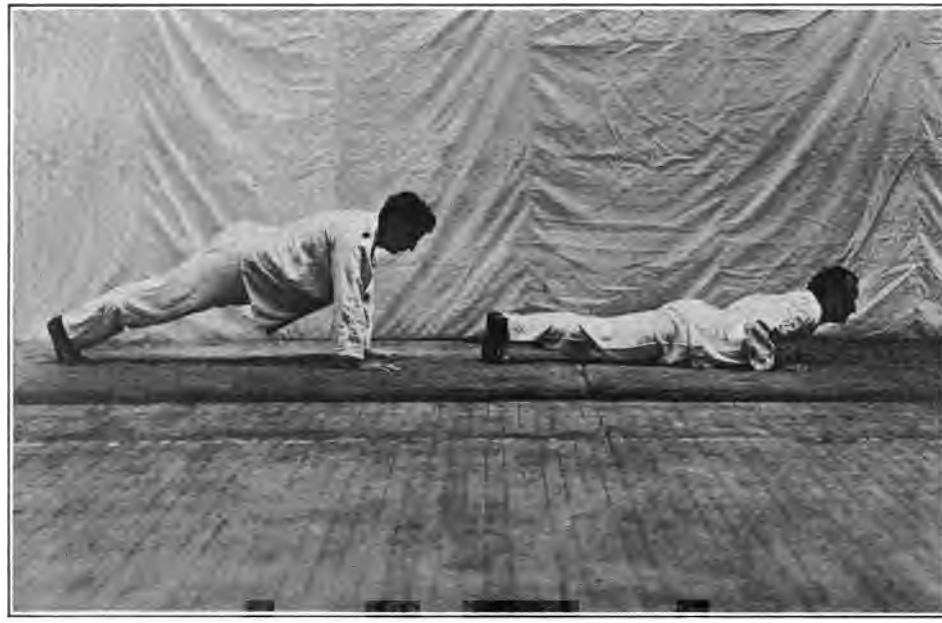


A B

FIG. 4.—FRONT LEANING REST

From a standing position, bend forward and touch floor as in A. Extend the legs backward on the jump as in B. Return to position A, then to standing or starting position. In position B, keep the body straight.

will give big muscles; but these are not always conducive to health. Health is a vital quality; large muscles are not. The predominant aim of all body-building should be for health, education, and recreation; and any other method is contrary to nature, intelligence, and experience. If the average busy man thinks he should exercise and refuses to attend a gymnasium because it requires an hour's exercise two or three times a week, at least as much more time in getting to and from the place, undressing, dressing, then undressing, and finally dressing again, then I shall agree with him that it means a great draft upon his time. The reason I am writing this article and suggesting a better way is because just such an objection is raised. Do not think for an instant that I am "knocking" the gymnasium. It is a grand institution, and has come to stay, at least until we "make good" the slogan "back to the farm." I claim that it is better for one to perform eleven exercises, such as suggested in this article, limiting each movement to one minute and making it a régime during life, than visiting a gymnasium, however good, two or three times a week for six months or a year, and then stopping exercise altogether. The gymnasium is my second home; I have



A B

FIG. 5.—THE DIP

From position A, lower the body till the chest almost touches the floor as in B, then straighten the arms by pushing up as in A.

spent sixteen years teaching within its walls, and I know it has its limitations. It is purely artificial, brought about by our artificial mode of living. One hundred years ago two per cent of the population of the United States lived in the city, while to day about forty per cent only is left in the country. This congestion means keen competition in order to gain a livelihood; it means a varied assortment of mental pursuits, and hence the counterbalancing influence of the gymnasium and common-sense exercise, eating, and sleeping.

Before telling you about this better way—one that covers all requirements—let me tell you what common-sense exercise should be, what it has done for others, and what it should do for you.

Its Value

Rational exercise should produce, first of all, a foundation for an enlarged, expanded, and uplifted body. The masters of men in all times, men at the top in every line of human effort, were not alone those whose bodies were large and strong, but those in whom physical exercise of some sort was an almost ceaseless characteristic. In the Bible we find that those whom God chose

A B

FIG. 6.—THE STRETCH

Lie prone on the floor as in A. Raise trunk, arms, and legs, as in B. Hold this position and stretch as far as possible for a few moments. Raise the arms a little higher than in the illustration.

as leaders were of strong physique. Moses was a strong man, else the march over desert, sea, and mountain would have exhausted him, the anxiety of the exodus would have crushed him. He came through all this in splendid condition, for Holy Writ informs us that "Moses was an hundred and twenty years old when he died; his eye was not dim, nor his natural force abated."

Socrates, the heathen philosopher of Athens, was of strong physique; in Harrison's "Story of Greece" we are told that he surpassed all men in physical endurance. Cicero, Rome's great orator, had stated hours for exercise. Cæsar was an extremely skillful swordsman and horseman and a good swimmer. Hannibal and Alexander were great generals whose bodies were strong, who could endure fatigue and the extremes of heat and cold. Lycurgus and Coriolanus were devotees of manly sports. Alcibiades became master of the Athenians by reason of eloquence, grace of person, and strength of body. Sertorius in full armor swam the Rhone. Marius, Pelopides, Marcellus, and Cato delighted in exercise and strength of body. In short, ancient and mediæval history shows that brain and brawn were two characteristics of men whom the world recognized as leaders.

Modern history reveals the fact that our great men indulged much in physical training and excelled in physical prowess. Washington weighed over two hundred pounds and was over six feet in height. In his day he was king at wrestling and jumping. Tradition says that Nathan Hale jumped twenty feet, but Washington, beating him, did twenty-three. Our first President's chest girth directly under the arms was 44.5 inches, being two inches greater than John L. Sullivan's in his palmiest days. Washington was a man of massive frame and far-seeing intellect, and will always remain in the heart of every true American "first in war, first in peace, and first in the hearts of his countrymen." Lincoln, Jefferson, Adams, Franklin, Jackson, and Webster were men of strength and endurance. Gladstone, Bismarck, Luther, Napoleon, and Beecher won the admiration of the world by the physical bodies and master minds which they possessed. Are not the leaders of thought to-day strong, large men? Some are tall, like Washington, others short, like Napoleon; but almost all have bodies large in comparison with their height. For this reason the trunk is well named. It is a hollow box which contains the heart, lungs, stomach, intestines, liver, and other

A B

FIG. 7.—SHADOW BOXING

From position A, strike at an imaginary opponent, then dodge as in B. Strike and dodge in every conceivable position. Move quickly and put plenty of action in the work. Get in a lot of foot movements.

vital organs. When the trunk is expanded and uplifted, the organs are upheld by their normal support, each in its proper place, and each organ has space in which to do its work. The heart and lungs need plenty of room in which to perform their important physiologic duty, and such space is only provided in a fully expanded trunk. The first thing, then, in a common-sense system of exercise is to create an enlarged, uplifted, and roomy body.

Again, rational exercise should stimulate the operation of every vital organ, invigorating every function. It should produce a feeling of fatigue, but not of exhaustion. It should induce perspiration. It should produce sleep, not wakefulness, and should gradually produce a normal appetite.

It should also develop the muscles—not a certain group, but every muscle of the body evenly and symmetrically. Muscles are developed not in proportion to the amount of work they are called upon to perform, but in proportion to the quantity of nutrient blood they receive. Natural exercise, then, will increase the size and power of all the muscles equally, because it increases the general circulation of the blood, not alone to the muscles, but to all parts of the

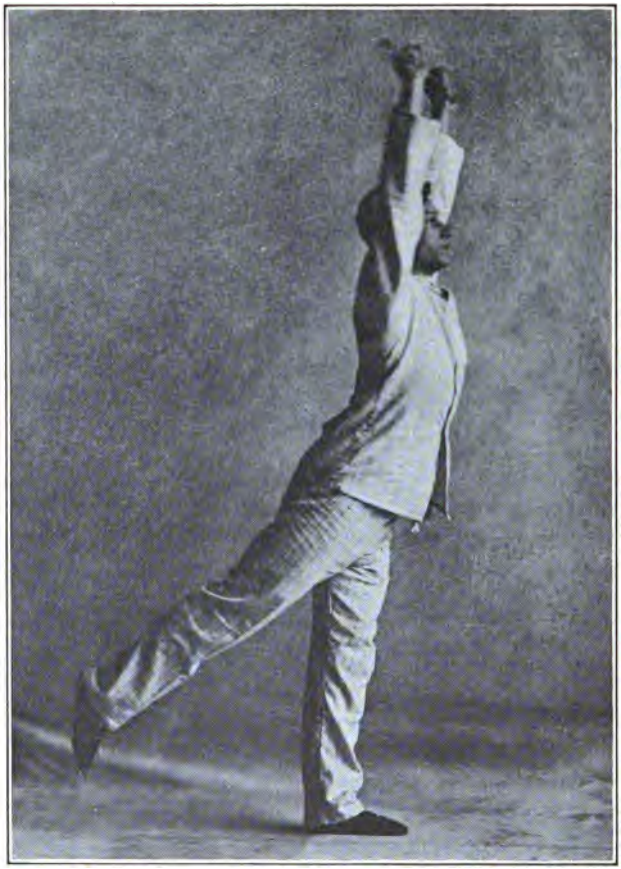


FIG. 8.—A STRETCHING EXERCISE

Raise the arms overhead and the right leg backward as far as possible. Hold and stretch a few moments. Repeat, using the left leg. The exercise may be made more difficult by raising the heel of the standing foot.

body. Exercise is valuable because it reduces the weight of the excessively fat man and increases the weight of the thin man. The heavy man's system is overcharged with fat, and vigorous exercise eliminates or burns it up. In the lean man's system there is an urgent need of a stimulus capable of arousing the digestion and assimilation to increased activity, and this agency is found in exercise. When more food is assimilated, it naturally follows that the weight of the body will increase.

Health, like money, can be accumulated, invested, and thus doubled and redoubled. If one must live a sedentary life, he should conserve and reinforce his physical "bank account" or capital with a large surplus of stored-up energy. If he uses the mind to excess and fails to bank energy by common-sense exercise and living, he will eventually force himself to the wall, with the inevitable resulting physical bankruptcy. Every reasonable man recognizes that life insurance is a good thing; but does he realize that health insurance is better? One enables him to die contented; the other, to live happily. His family would rather have him than his insurance money. An endowment life-insurance policy is the best for the holder, as he receives

A B

FIG. 9.—BENDING FORWARD AND BACKWARD

Take a wide grasp on the wand or broomstick. Bend forward as in A, then backward as in B.

the money invested in a given number of years. With a health-insurance policy, where the premium is paid in the form of eight minutes' daily indulgence in physical exercise, instead of the holder waiting ten, fifteen, or twenty years, he begins to receive dividends immediately. A health policy not only adds years to his life but life to his years.

I have been writing this article for over eighteen years, because it has taken me that time to gain the information contained herein together with personal experience and the observation of others, which I now pass on to you. I know these exercises will do what I claim for them, because they are bringing results to over two thousand college students who meet in class work twice a week under my instruction. I hear some one say, "Are these movements original —some mysterious system just discovered?" No, I did not invent these exercises, and it is no special system. It is, however, more natural than most of the man-made systems. It is taught in nature's college and practiced by animals and healthy children. They, unlike us adults, awake slowly, stretch, yawn, shake themselves, dance, roll on the ground, jump, dodge, leap, and run. Have you ever noticed the cat getting

awake? It opens its eyes slowly, stretches and yawns till fully awake. Many of us, on the contrary, awake at the ringing of an alarm clock, jump out of bed as if thrown from a catapult, hurriedly dress and eat, then run to catch a train about to move. At noon a quick lunch is the almost daily programme. Dinner is hurried at night, in order to attend the theater or some other place of amusement. After this, on account of the lateness of the hour, the alarm clock must be again set in order to repeat the awakening process. Is it any wonder that the wrinkles of hurry, worry, and nervousness are becoming stamped upon the American face?

Awake slowly, imitating the cat and the healthy child by yawning and stretching. A good stretch and a yawn is a gymnasium in itself—the gymnasium of nature. Stretch in every conceivable way, as it uplifts and expands the chest and wakens the internal organs to new life. Get out of bed and walk on hands and feet, as in Figure 1, to the bath-room. Walk with bent knees, as in position A, for two or three weeks, then try walking as in B, without bending the knees. In public this mode of walking would not be considered graceful or conventional, but as an exercise it brings results.

A B

FIG. 10.—THE BENDING TWIST

Feet apart about thirty inches, wand or broomstick on shoulders. Twist trunk to the right, then bend forward as in position A. Return to starting position, twist trunk to the left as in B, then bend left (opposite of A). Keep knees stiff and do not turn hips while twisting. Do not raise heels from floor.

Figure 2 is an abdominal exercise and should be performed in 4 counts. Lie supine upon the floor. On count 1 raise legs; on count 2 bring knees in to chest; on count 3 straighten the legs and on count 4 lower the legs to the floor.

Figure 3 is a rolling exercise. Sit on the floor, as in A, and roll backward, bringing back the feet (if possible) till the floor is reached, as in B; then roll to sitting or starting position. To make this movement more difficult, start from A and lie on the back; roll back, as in B; lower legs to floor, and raise body to sitting position. These rolling exercises not only give exercise to the entire body, but the pressure of the floor on the body gives a splendid massage.

Figure 4 is a good exercise to make the muscles elastic, strengthening the muscles of the arms and abdomen. Try and keep the heels, hips and head in a straight line while in the B position.

Figure 5 is a chest and arm developer. It is difficult to push the body from B to A if the individual is very fleshy. Push up once or twice the first time and increase one push up daily till 15 or 20 push ups are accomplished.

Figure 6 is a stretching exercise. Raise head, arms and legs as high as possible, hold and

stretch for a few seconds. This is a good exercise for the back.

Figure 7 is a dodging movement. Strike at an imaginary foe, as in position A; then dodge, as in B. Put plenty of action in it. This is called shadow boxing, and some pugilists practice it to become more proficient at the game. Figure 8 is a stretching exercise, which expands and uplifts the chest, and tends to make one more erect. In this and the two following exercises a broomstick is used because it serves as an incentive for one to do more strenuous work. It is not, however, necessary to use any appliance in the performance of these exercises, although I find that the untutored will get a better bend and rotation with the assistance of the stick.

Figure 9 is a bending exercise, and will give elasticity to the back. Bend forward, as in position A, then backward, as in B. Figure 10 is a combination of bending and twisting. With feet apart about thirty inches, bend forward and twist, as in A, toward the right leg, twist body to the left, as in B, then right and left alternately. Bending from side to side as far as possible is an excellent exercise to stir up a lazy liver. Keep the stick on the shoulder during

FIG. 11.—STATIONARY RUNNING

Run without gaining ground, bringing the knees well up to the chest. Step lively, taking forty to fifty steps to the half minute.

the side bending. Figure 11 is a running exercise. It is very difficult to run in the congested city street, so one must perform his running without gaining ground. Run stationary, as in the figure, bringing the knees up one after the other as near the chest as possible from fifty to one hundred times to the minute. Figure 12 is a deep-breathing exercise. Raise the arms forward above the head, inhaling deeply; hold breath and bend forward, as in A; up on toes and stretch, as in B; lower arms to side, exhaling. Finish the exercise with a deep-breathing movement such as No. 12 or any movement illustrated in chapter on deep breathing.

It is better to perform these exercises in pajamas in the morning, as one's vitality is stronger then than later in the day, and much clothing restricts freedom of motion. Every one must judge for himself how much exercise to take at a dose, as the amount beneficial to one might prove injurious to another. These exercises of stretching, walking on hands and feet, bending, twisting, dodging, and running are basic in character. Every limb does work in proportion to the strength of its muscles without strain, as it moves only its own weight.

It is no credit to a man to make a success of

A B

FIG. 12.—DEEP BREATHING

Raise arms forward overhead, inhaling deeply. Hold breath. Bend forward as in A. From position A, raise arms forward overhead, stretch as in position B. Lower arms sideward, exhaling. In addition, use two or three exercises in chapter on deep breathing.

life up to thirty-five, then be ready for the junk-pile at forty. But to live well on toward one's second century takes a man big enough to live naturally and unselfish enough to spend at least eight minutes daily in common-sense exercise for his health's sake.

CHAPTER II

EXERCISE FOR THE NERVOUS WOMAN

I AM firmly convinced that the average American woman is more nervous than the average American man. She will probably challenge this assertion; but her daily speech and actions proclaim it to be true.

Why is this so? It is, in the first place, due to lack of sufficient common-sense physical training. Again, it is caused by eating too fast, too much, and of improperly prepared foods. An excess of sweet and starchy or nitrogenous (meats) articles of diet piles up poisons in the system which lead to disease. Add to this the lack of fresh air, uncleanliness of body, and improper clothing, rest, and sleep, and the total sum spells nervousness.

Beauty

Every vegetable and every animal is beautiful according to its own type of beauty when it is most perfectly developed. In man or woman

A 4 B 1 3 C 2

FIG. 13.—Secure a Turkish towel of sufficient length to enable you to take a wide reach. Two ordinary towels sewed end to end will serve for all purposes. Take a wide grasp as in position A. Raise the arms above the head as in B. Lower arms low in the rear as in C. Pull strongly on the towel throughout the exercise. This exercise develops the arms, back, and chest. This may be made a four-count movement, viz.: A to B, count 1; B to C, count 2; C to B, count 3; and B to A, count 4.

the exact development of every part and that which enables it to best perform its function is the highest possible beauty. A healthy woman is the perfection of bodily organization, intellectual energy, social activity, and moral power. She is entirely free from pain and discordance of mind. The first and greatest sign of health in woman is beauty.

Next to character, beauty of form and feature is a woman's greatest asset. Ideal beauty must have symmetry, proportion, curvature, color, and expression. Especially in woman does one look for these elements. She is the highest type of beauty on earth. No animal on earth has a better proportioned body, features and curves more symmetrical, color more exquisite, expression more defined, movement more graceful, finish more complete, than woman. A youthful woman is earth's queen of beauty. The ancients regarded beauty as a mark of divine favor. Socrates called it a short-lived tyranny, Plato a privilege of nature, another writer a solitary kingdom, Theocritus a delightful prejudice, while Aristotle claimed that it was better than all the letters of recommendation in the world. Ovid said that beauty was a gift of the gods, and another writer

A B

FIG. 14

From position A, towel low in front, lower the trunk forward and raise arms overhead as in B. Keep the chest out strong and do not allow the back to hump. This exercise strengthens all the muscles of the upper part of the body.

represented it as "a queen without soldiers." Diogenes called beauty woman's most forcible letter of recommendation. While many of the old philosophers denounced beauty as worthless and mischievous, still they were none the less its slaves. As long as a woman has superb health she will have beauty, and by hygienic living may retain it all her life. An occasional elderly woman can be found who has great beauty. Another retains it till forty or fifty years of age, and another, more's the pity! only till twenty or thirty. The saying that a woman is as old as she looks has truth in it, as usually one feels as old as she looks. One woman is indeed old at thirty, while another is young at sixty. Cleopatra, the charming Egyptian, was over thirty years old when she fascinated Mark Antony. Helen of Troy, whose beauty caused such a long and bloody war, had passed her fortieth year when Paris fell in love with her and carried her from her native home. At forty Madame Recamier was regarded as the most beautiful woman in Europe.

After all these nice things I have said about you, Mrs. Nervous Woman, will you allow that beauty of feature and form to become marred by injudicious eating and insufficient bodily

A B

FIG. 15

From position A, towel low in front, raise the heels as high as possible, and the towel over head as in B. This is a balance movement and develops the calves of the legs. Pull upon the towel.

exercise? Will you allow fat to accumulate upon the neck, abdomen, and hips, and thus destroy the symmetrical contour of these parts? If you have an excessive amount of fat in these regions, will you not give the exercises described in this article a trial for a few months and observe the hints on proper living? If you are thin, with a poorly developed chest and bust, I know the exercises will help you and bring about the desired result.

Among the many letters received from women regarding the Towel Exercises was one from a lady in New England.

She claimed that in a short time she observed a decided reduction in the girth of waist and hips and an increase in bust and chest. Another woman from the West wrote and said that she, her husband, and four children, were taking the exercises and claimed that all were benefited and had a good time generally as they worked in unison. This family was so interested that the head of the household had special towels made and labelled in order to suit each member's length of reach.

Other commendatory letters revealed the fact that some gained weight and others lost it through the faithful performance of these gym-

A B

FIG. 16

From towel held low in front of body as in A, raise the arms forward (or overhead) and bend the knees as in B. Keep the trunk erect. Do not lean forward. Bend the knees till the hips almost touch the heels (squatting position). This is a balance movement and reduces the size of the hips if they are excessively fleshy.

nastic movements. Rational exercise is like a two-edged sword, in that it works both ways, burning up excessive fat, thereby causing a reduction in weight, and again, adding to the weight in the anæmic and poorly nourished by stimulating the digestion and assimilation.

I am for the moment taking the liberty of considering the flat-chested woman and the woman whose body is out of proportion on account of adipose tissue, and while in this position I shall try to tell each of them how to bring her body to a normal, healthy condition.

Activity

What would you think of a starving woman refusing to eat substantial food that has been placed before her? If after reading this article you refuse to observe the hints and fail to give the exercises an adequate trial because it means hard work and sacrifice, then you place yourself in exactly the same position as the starving person who refused to eat. There is absolutely no reason why a woman should go through life with a half-starved, undeveloped muscular organism when through eight minutes spent daily in exercise she may be pulsating in vigorous health. Nor should another be constantly

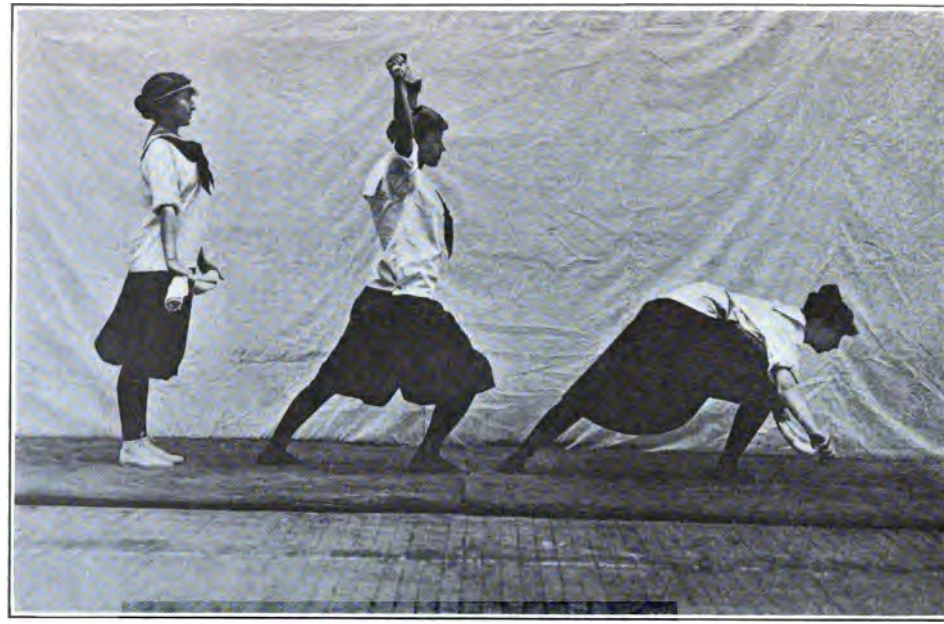
A 1 B 1 3 C 2

FIG. 17

Towel low in front as in A (count 1). Raise towel overhead and lower as in B (count 2). Lower trunk forward and raise arms backward (count 3). Return to B position (count 4). Return to starting position. In lowering of the trunk, keep the chest strongly expanded.

carrying from fifty pounds up of excessive fat when by rational eating and exercising she can reduce it to normal. For a woman to know her duty regarding her physical welfare and to neglect its performance is criminal negligence, not alone to herself, but to her descendants. Certainly it means hard work to get health, and just as hard to keep it. Nothing in the world that possesses any value can be had free. Air is free, but even it must be breathed, and the deeper and more vigorously it is breathed the more good it does one. "Nature knows no pause," said Gœthe, "and attaches a curse upon all inaction." Still water becomes stagnant, while running water purifies itself. Sloth, like rust, consumes faster than labor wears. The bicycle falls the moment it stops, and physical exercise and mental activity keep many a life from falling. The ship at the wharf rots faster than one at sea. Frogs do not croak in running water, but in the stagnant pool.

It is the indolent person in whom are found discontent and pessimism. The great law of activity excuses no one, weak or strong, poor or rich. The poor must work to get money with which to secure food and thus satisfy the cravings of the appetite, while the rich must



A 4 B 1 3 C 2

FIG. 18.—This is a combination of charging and bending and is best performed in four counts. From position A, charge forward with right leg, arms overhead (1). Bend trunk forward arms downward as in C (2). Return to position B (3). Return to starting position (4). The charge should be two or three foot-lengths and both heels should remain on the floor. The rear leg should be kept straight and most of the weight of the body should be on the charging foot. Charge on the right foot, then the left.

work in order to create an appetite. When the pores of the body are kept open by regular, common-sense exercise, the pores of the imagination are apt to be closed against tainted subjects.

Common-sense Exercise

Any kind of physical training which brings the desired results may be termed common-sense exercise. All out-of-door sports are excellent because one gains from the highly oxygenated air. Walking is second to none as an exercise, because it is natural, beneficial, pleasing, and safe. Nervousness, sleeplessness, and indigestion are poor pedestrians and will never overtake one who walks much under the open sky. Horace Greeley said that walking two or three hundred miles in a clear, calm October was one of the cheap, wholesome luxuries of life, as free to the poor as to the rich. I would not, however, limit it to one month, but make it good for all twelve.

Walking is one of the best exercises for children. In fact, a noted authority claims that a normal human being walks more at the age of six than at any other period of life. A walk of a few city blocks may be a simple exercise, but thirty or forty miles becomes very difficult and

A 4 B 1 3 C 2

FIG. 19

(1) Charge from position A sideward left, arms overhead, to position B. (2) Bend sideward left as in C. (3) Return to position B. (4) Return to starting position. Repeat sideward right. In the sideward bend, lower the trunk as far as possible. This is a good exercise to awaken a "lazy liver." It will also reduce fat at the waist line. Pull upon the towel throughout the movement. Keep the weight of the body upon the charging leg.

quite complex. By walking one can in a day reach the greatest maximum of labor of which the human body is capable, and this without strain. It is, then, an excellent form of exercise for the athletically inclined young man or woman. For those in middle life and the aged it is one of the best exercises, because it produces the maximum of good results with the least amount of effort. Even among invalids, or during convalescence when exercise can be indulged in at all, walking is the best, as it can be done without strain. The reason that strain is largely eliminated is due to the even distribution of the effect of its practice over the entire system of muscles, many of which are the strongest in the body. None of these muscles needs to be taxed to its full capacity, but may be used in a slight or moderate way. The addition of these slight efforts in a five or six mile walk daily will total a summary that becomes a potent force in acquiring and keeping health. Begin with a mile walk each day the first week, two miles each day the second week, and increase one mile each week till you are walking four miles daily. You will find that walking is a lubricant that prevents one's joints from becoming stiff, creaky, and rheumatic.

A 4 B 1 3 C 2

FIG. 20.—(1) From position A, charge forward right, towel in rear of shoulders, B. (2) Twist or rotate trunk to the right, C. (3) Reverse. (4) Return to starting position.

Repeat by charging left and twisting left. Charging right and twisting right is a rather severe exercise as it stretches the waist muscles. It is an excellent exercise for constipation and reducing fat at the waist line. When one charges forward right and twists left, there is a very little effect produced on the waist muscles.

Keep both heels firmly on the floor. Pull upon the towel throughout the exercise.

Swimming is one of the finest of exercises. It develops the body symmetrically and thoroughly; it is hygienic; it is a health-giving agency; it is a pleasant form of recreation; it is often the means of protection or safety in case of danger to life. It is doubtful if one in fifty women can swim. Still, it is easier for women to swim than for men on account of the bony structure being lighter and the body more buoyant. Again, women can withstand cold water better than men, and would learn to swim very readily if it were not for fear of the water. It is almost criminal negligence for those to be unable to swim who in many of our large cities must be daily upon the water.

Mr. Taft, while President, upon accepting a gold-mounted golf stick from some of his California admirers, almost raised the game of golf to the plane of an official subject. He commended this game in particular as a wholesome diversion for the middle-aged and persons approaching the evening of life. He sounded a timely note when he said that it is not games and exercise for the young and active that are needed in this country, since they are well provided for with baseball, football, basket-ball, and tennis. The ex-President thinks that what

A B

FIG. 21.—Lower the chin on the chest as in position A. Pull on the towel resisting with the neck till in position B. Resist with the neck and pull on the towel till the head is lowered as in A.

The same may be performed by placing the towel on the forehead, resisting as the head is lowered backward and forward. When the towel is on the back of the head as in the illustration, the resisting develops the back of the neck. When on the forehead the front of the neck is developed.

This exercise also tends to reduce a "Double Chin."

is wanted are games for those past the flush and strength of youth, and consequently recommends his favorite pastime of golf.

Such games and diversions as bowling, cricket, golf, horseback-riding, swimming, walking, and the exercises illustrated in this article can be indulged in freely between the ages of twelve and sixty with safety and beneficial results.

When you awake in the morning, yawn a few times and indulge in a thorough stretching and twisting of the body, arms, and legs. Remove the pillow and raise the head till the chin touches the chest fifteen to twenty-five times. If while doing this you place the hands on the sides of the neck, you will observe a tightening of the muscles. This exercise, if persisted in for some time, will tend to remove a double chin. A daily massage of the front of the neck with the fingers will assist in bringing the neck to a normal condition.

It is impossible to recommend the number of times which each exercise should be performed, as no two persons are alike in their physical condition. If you are not accustomed to exercising, commence by doing each exercise once the first day, twice the second day, and increasing accordingly each succeeding day until you are

A B

FIG. 22

Place the towel on the knee as in position A and pull knee up as high as possible. This is an abdominal exercise, massaging the abdomen and tends to relieve intestinal sluggishness. Pull on the right knee, then the left.

doing each exercise from twenty to thirty times a day. Morning is the best time to do the exercises, but any time is better than none at all.

Hygienic Hints

One's eating and drinking play an important part in health. Do not eat too much, as the body in this condition is the same as a stove or furnace which is overcrowded with fuel. The combustion being incomplete, volumes of smoke and gas are produced which choke the fire and poison the various organs. Avoid foods that do not agree with you. If you have a tendency towards rheumatism, diminish the amount of foods containing acid, such as strawberries, tomatoes, rhubarb; eat sparingly of meats, avoid liquors, tea, coffee, and spices, and drink plenty of water between meals. If you are troubled with constipation, partake of foods that are laxative and contain bulk. Foods that are laxative and easy to digest are baked apples, mutton, pears, tomatoes, and buttermilk. Foods laxative and moderately digestible are apples, bacon, barley, cherries, grapes, prunes, peaches, raspberries, strawberries, and veal. Foods laxative but hard to digest are currants, green corn, dates, figs, oatmeal, plums, pineapple, and rhubarb.

A B

FIG. 23

From position A, towel low in front, jump to a stride position, arms overhead, as in B. Jump back to A. Jump at the rate of twenty or twenty-five times in one-half a minute. This exercise increases the respiration and circulation and induces perspiration.

Foods which contain bulk and relieve constipation are lettuce, carrots, turnips, cauliflower, cabbage, and sterilized bran. Foods that are both bulky and laxative are wholewheat bread, spinach, and dandelion.

Chew the food thoroughly, for the stomach has no teeth. The hen swallows her food without chewing, but she also swallows "grinders." Sleep is nature's great restorer, as it in a mysterious way overhauls and repairs in secret our wonderful mechanism. We return to sleep each night tired and wasted from the day's work, scarred, broken, and injured in the great struggle called life, yet sound sleep refreshes each tiny brain cell, washes the ashes into the blood stream and pumps them into the lungs, where they are thrown out in every breath. While asleep the heart beats ten strokes less to the minute in order to give it the needed rest, and in the morning the body is as fresh and as good as new. How necessary, then, that one secures the requisite amount of sleep and that the sleeping-room is well supplied with fresh air. Robbing one's self of sleep is putting a mortgage on future health and strength. Nature will eventually foreclose; she will, like Shylock, demand the last ounce of flesh.

A B

FIG. 24

From position A, inhale deeply as arms are forced backward, as in position B. Exhale from B to A, position. Finish the exercise with a deep-breathing movement such as the above or any two or three shown in the chapter on deep-breathing exercises.

Practice not alone self-control of appetite, but of the emotions. The poisons of fatigue have been demonstrated, but the poisons of worry, grief, and discontent, though not yet determined, without a doubt exist. Explosions of anger, fires of hatred, brain-storms of lasting grief, contagious fear and panic over disease or misfortune, are injurious to the human system, and so should be controlled. Besides daily performing the exercises described in this article, choose one of the outdoor sports or make some sort of play part of your daily regimen. One should not only resist the temptation to watch others fight the world's battles, but should also overcome the tendency to sit in the grandstand and cheer those who play the game. With the petty round of irritating concerns during the daily duties, happy is she who can play the woman, helping others with her kind, laughing face, and who combines cheerfulness with industry and hygienic living. She not only helps those with whom she comes in daily contact, but she goes to her bed content, weary, and undishonored, and rightfully earns that great gift of the gods, restful sleep.

In closing, Mrs. Nervous Woman, let me say that because you live the strenuous life is no

A B

FIG. 25

After the exercise, or better still, following the bath, secure a coarse Turkish towel and rub the body till pink or in a glow. Saw across the back as in A, then up and down, first one shoulder, then the other as in position B.

reason why you should be nervous. You can put on the high-speed gear and live as easily and economically as on the low if you use the proper grade of gasoline. This gasoline is a combination of common-sense exercise, diet, and sleep, pure air, recreation, and the "glad hand" for whatever life brings you.

CHAPTER III

EXERCISE FOR THE GROWING CHILD

In dealing with the subject "Exercise for the Growing Child" I shall also speak of the child's early training in the mental, social, and moral aspects, as these and the physical cannot be dissociated. During the first few years of life all of these natures of the child can best be developed through the agency of play.

Play Life

Before taking up the play life of the child, let us see if we can determine what play is. There are four view-points in the theory of play, all of which should be considered. The "feeling fit," or overflowing with surplus energy, is advanced by H. Schiller and Herbert Spencer, while directly opposed to this is the idea that play is an opportunity (Lazarus's theory) afforded for the relaxation of exhausted powers. Professor Karl Groos claims that play is important in the development of the individual, while, opposing this, Professor G. Stanley Hall explains play

is wanted are games for those past the flush and strength of youth, and consequently recommends his favorite pastime of golf.

Such games and diversions as bowling, cricket, golf, horseback-riding, swimming, walking, and the exercises illustrated in this article can be indulged in freely between the ages of twelve and sixty with safety and beneficial results.

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A B

FIG. 22

Place the towel on the knee as in position A and pull knee up as high as possible. This is an abdominal exercise, massaging the abdomen and tends to relieve intestinal sluggishness. Pull on the right knee, then the left.

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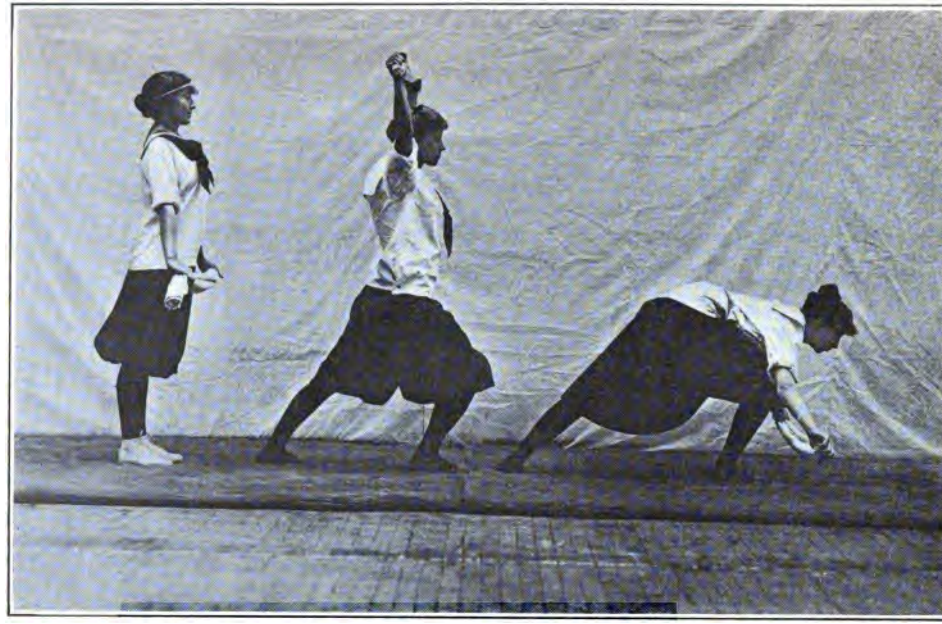
It is the indolent person in whom are found discontent and pessimism. The great law of activity excuses no one, weak or strong, poor or rich. The poor must work to get money with which to secure food and thus satisfy the cravings of the appetite, while the rich must



A 4 B 1 3 C 2

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FIG. 26.—PLAYING SOLDIERS

THE CORRECT STANDING POSITION

In order to note whether the posture is correct or not, stand against a wall with head, shoulders, hips, and heels touching it.

as a rehearsing of ancestral activities. Herbert Spencer, in his "Principles of Psychology," in upholding the first of these four views, claims that "play is characteristic of nerve processes —that the superfluous integration of ganglion cells should be accompanied by an inherited readiness to discharge." This sounds quite technical; it means that on account of the advanced development of man he has more force than is needed in order to digest, breathe, keep the organic processes going, and is able to allow some of his processes longer periods of rest while others are being exercised.

Imitation seems to be quite general in the play of the child, who dramatizes the acts of adults in the dressing of dolls and the building of toy houses; still, imitation cannot be called the universal standard of play. Not imitation or superfluous energy, but the life of impulse and instinct alone can make special forms of play comprehensible to us. All that is needed to set the claws of a kitten in motion is to roll a ball of cord toward it, while the full-grown cat starts up at the sight of a mouse. If a father gets upon his hands and knees in the nursery, the child instinctively is ready for a romp. The feeling-fit theory is all right as far as it goes,

but it does not go far enough. Recreation or play appeals to one when one is tired or exhausted and still does not wish to rest or sleep. Play is the diversion of thought from the weightier conflicts of life to the seemingly lighter diversions of the hour. As the hair of a violin bow should not always be taut if the instrument is to retain its usefulness, so does man need the relaxation of play. When a student plays a game of baseball or tennis, he tones up his relaxed mental powers at the same time that he finds a means of relieving his accumulated motor impulses, repressed during his work in the clinic, laboratory, or at the drawing-board. Play which disposes of his surplus energy, and, again, which restores his lost powers, is a valuable supplement to the Schiller-Spencer idea, but still does not solve the theory of play. New recreative activity is often closely related to the work of which one is weary, as the changing from one scientific book to another. When almost exhausted from long, continuous walking on the level, I have found diversion and become rested by up-and-down-hill walking, and *vice versa*. This is due to the fact that different sets of muscles are employed. The swimmer becomes rested by turning over on his back.

While the theory of surplus energy accounts for play in the case of many children when there is no need for recreation, this need may produce play, as illustrated by adults with whom there is no surplus energy. While play may be started in the absence of superabundant energy, it may then be carried to the utmost limit of exhaustion. Baldwin explains the almost irresistible tendency to repeat by calling it "circular reaction." A child never tires of hearing the same story over and over; roosters fight till they fall exhausted, and, when rested, renew the fighting. A phrase or advertising sign will often stay with with one for days, being constantly repeated or reviewed in the mind's eye. This impulse toward repetition is the reason for carrying on play to the utmost limit of strength. Some parents imagine their children evilly inclined because, while leaping and running, they sometimes are seized with a wild impulse for destroying things or for inflicting pain upon animals. Children should not be punished for this, because they are following the mysterious law of "circular reaction," or the frenzy of play. While the play life of the child should be encouraged, still it should be carefully supervised by the parent and teacher, and the child should not be allowed

to play too much. A child has not the self-control of the adult, and so gives way to the impulse of repetition. I have seen both a boy and a girl faint from the effects of over-indulgence in play, the boy during Marathon running, and the girl in rope-jumping. During the unrestrained impulse of the adult, even, we can see evidences of the tendency to repeat. The dancer whose movements are adjusted in harmony with the rhythmic repetition of pleasant sounds is possessed by a kind of temporary madness which makes him exert his powers to the utmost. Some religious sects do unseemly things while laboring under the fervor of religious ecstasy. The frenzy of play is well exemplified in the ghost dance of the American Indians and among savage tribes in other parts of the world which inflict atrocious self-torture and dance till exhausted. Parents should not, then, repress the shouting, singing, and playing of the child when they themselves can hardly at times restrain the same impulse. Professor Karl Groos, in his "Play of Man," says that play is of great importance in the physical and mental development of the individual; that it is, in short, preparatory to the tasks of life. He claims that, before the child's education begins, his whole

FIG. 27.—GOING-DOWN EXERCISE

The child keeps the body rigid while being lowered to the floor, the parent or teacher steps to the side as in Fig. 28.

existence, except the time devoted to sleeping and eating, is occupied with play. He says that this does not involve heredity impulses, but that its peculiar and inherent nearness to the springs of life and life's realities demands a complete explanation grounded on a general principle which is applicable at once to youth and to the play which lasts throughout life.

The latest view of play is held by Professor G. Stanley Hall, who says that "the first spontaneous movements of infancy are keys to the past; that in play every mood and movement is instinct with heredity." The power to throw with accuracy and speed was in the long ago necessary for survival. Those who could throw unerringly overcame enemies, killed game, and sheltered the family, while those who could not were eliminated. Running and dodging with speed and endurance and hitting with a club were also basal to hunting and fighting. These exercises are still necessary for developing and perfecting the organism, and this is what makes the game of baseball so racially familiar and our National sport. Does not the typical college game of football revive memories of the conflict and struggle of primitive ages? It does not take a Carlisle eleven to make a gridiron resemble a

FIG. 28.—PULL-UP EXERCISE

The child keeps the body rigid while it is being raised to the position of Fig. 27.

battlefield of savages, illustrating, as it does, the joys of victory and the crushing sorrows of defeat. Why will twenty or thirty thousand persons sit for two hours cheering their favorites, oblivious of the cold, rain, and blinding snow, if not impelled by ancestral traits handed down by those football tactics of running, dodging, tackling, and throwing of the primitive man? Is it not a racial instinct that impels one to sit all day on the bank of a stream and fish? Some exercises and play are more interesting than others because they touch and revive the basic emotions of the race. "Play," continues Professor Hall, "at best is only a school of ethics. It gives, not only strength, but courage and confidence, tends to simplify habits, gives energy, diversion, and promptness to the will, brings consolation and peace of mind in evil days, is a resource in trouble, and brings out individuality." The conclusion, then, I take it, is that all four ideas discussed must be included in order to give the best definition of play. Surplus energy and recreation for exhausted powers may operate simultaneously; while in the free, untrammeled use of one's powers individual qualities may be developed during the rehearsing of those ancestral activities as reproduced in play.

The Biologic Aspect of Play

In the science of life play may be considered from two standpoints: its genetic explanation and its biological value. It is as difficult to explain its origin satisfactorily as it is to explain the origin of man. Darwin's theory of descent has constantly increasing opposition. Still, there is no better doctrine than that of evolution, and man's obscure origin may never be fully comprehended. Darwin's theory of descent, however, is symbolic of the biologic aspect of play, evolution by means of the inheritance of acquired characters, and, again, evolution by means of the survival of the fittest in the struggle for existence. Play is deep-seated in biology because it secures the maximum of joy in life with the minimum of expense. Especially is this true with games and movements of rhythm, such as college yells, cheers, walking, horseback-riding, dancing, and gymnastics with music. Students will exercise and dance with energy and spirit till almost exhausted when accompanied with popular music, while without it the same exercise loses its attraction and is then often performed as an irksome task. Students like to yell, sing, and whistle in connection with gym-

FIG. 29.—GOING-UP EXERCISE

Clasp the hands and grasp the child firmly under the neck. Do not let the hands slide or the hair will be pulled. The child holds the body rigid till the ordinary standing position is assumed. This exercise strengthens the neck and back.

nastics and play, and this should be encouraged. In a growing youth shouting, like the crying of infants, causes tension and flushing of various organs, enlarges the caliber of blood-vessels, forces the blood into newly growing fibers, cells, and organs, which atrophy if not thus fed. Play is a sign of youth, and the absence of it reveals the fact that one is getting old.

The Psychologic Aspect

From the intellectual standpoint, play contains three essentials, viz., its pleasurable effect, the conscious or unconscious imitation of useful activities, and the reproduction of the original aim in a playful one. The psychology of play rests on the satisfaction of unborn impulses, such as fighting, sexual, imitation, and social instincts, and these, pressing for discharge, lead to pleasure when they find it in play. Some forms of play are not psychological, such as the play of young animals and infants, nor can this be said to be pleasurable. The child in his first grasp of an object clutches at it instinctively, and play then begins. From a biological point of view, this is practice of an instinct and may be termed a contact play. The child then develops the playful activity with the rest of the

sensory apparatus by his sensations of temperature, taste, smell, sound, and sight. These movements cannot be considered play from a psychologic standpoint until through repetition they acquire the character of conscious processes accompanied by attention and pleasure. The pleasure in play and exercise may direct the attention and imagination of youth from questionable things to those that make for character. Properly directed games and play, by exalting one's spirit almost to the point of ecstasy by its intense physical pleasure, will diffuse, irradiate, and lessen the sexual stress just at the age when its premature localization is most dangerous. The proper amount of play or exercise at the proper time gives moral self-control and favors all higher human inspiration. The higher mental powers are employed and developed in play to a remarkable extent. The infant experiments during play with such feelings as physical pain, mental suffering, surprise, and fear. The illusion of the child is so strong that the little girl with her doll imagines she is its real mother, while the boy is just as really a soldier or robber. In games of tag the child runs with as much fear as if the bogie-man were real. Older persons also play with the

feelings, as a sensitive tooth is constantly touched by the tongue or a slight wound repeatedly pressed or rubbed. The neurotic plays with his feelings and imagines he has all sorts of diseases. In the last case imagination tends to make one morbid and introspective, while illusion in play can result only in good. In short, play is just as real to the imaginative adult as her doll is to the little girl; and the play life of the older person helps and develops him just as much as the doll helps the girl for the duties, later, of a mother.

The Sociologic View-Point

As society is founded upon the desire for aggregation and communication, so play is necessary for bodily association or grouping together in order to bring out the best that is in man. Play is valuable in its cheering and humanizing effect both physically and mentally, especially in those games which tend to strengthen social ties. To do what the others do; to thrill with the feeling that moves the masses; to get out of the narrow routine of one's own desires and efforts —these one experiences during play, and habits which extend beyond the sphere of play are thereby formed. When these two original so-

cial impulses outgrow the limits of the family, the child enters the first social group composed of playmates. Every "gang" must have a leader, and his command is absolute; under such command a timid child may steal and commit crimes that amaze and horrify his parents. Later the college youth, not while alone, but with the "hail fellows well met," will drink liquors till intoxicated. At these periods of life play ought to be well directed. Achievement in play games proclaims ability to support and defend not only one's self, but others. Physical force and skill, the victory and glory which proclaimed the ancient a hero and invested him with romantic glamour, are just as irresistible to-day. The applause of men is intoxicating; but that of the fair sex is ravishing. Woman selects one in whom are found such qualities as bravery and strength; in fact, evolutionists claim that woman has domesticated and educated savage man and taught him all his virtues by exercising her royal prerogative of selecting in her mate just those qualities that please her for transmission to future generations and eliminating others distasteful to her. Just as a young man in playful mood feels the joys of victory and the sorrows of defeat more keenly

FIG. 30.—THE ABDOMINAL-MUSCLE EXERCISE

Grasp the child under the arms and have it raise the legs as high as possible.

in the presence of his sweetheart, so in after life will he try to please his wife in the development of those powers that elevate both themselves and society. In play, such as a game of football, the master spirit, who takes the lead by virtue of his courage, wisdom, or presence of mind, will enthuse those playing with him, and all will work together in order to win. Proving to one's associates and rivals in play what one is capable of gives one the right to be a leader. This desire to influence other wills and to direct and control public action, to become a social leader, finds full scope and development in play. The masterful spirit learns how to control; the milder one how to obey. Often (in life, as in play), for the welfare of society, when one feels like striking with all his might, he must make a sacrifice bunt in order that his team-mate may advance.

Play benefits society, as can be seen by the great crowds that gather to witness contests and games, oblivious of the exacting cares and responsibilities of home and business, and reveals the power of enthusiasm in congenial surroundings, while each one gains a stimulus from the vast crowd.

Play is *esprit de corps* in that it is cementing

the ties of brotherly love between nations in those great international contests which had their origin in ancient Greece. These Olympic Games in the long ago were ever in preparation for war, while to-day they stand for development and kindly competition. Just as we rehearse and give vent to the savage activities of our forebears in games, so can athletic contests between nations take the place of war, which is of savage origin and belongs to a dead past.

The Pedagogic View-Point

The educational value of play has been recognized from the time of Plato to the present day. There are two ways of viewing the relation of play to education. The instruction may take the form of playful activity, or it may be converted into systematic teaching. Instruction may take the form of play, as in the hobbies of adults aside from occupation, which are taken chiefly for the pleasure they afford. These may be instructive and have aims entirely outside of the sphere of play. The teaching of the young child, however, is different, as in the Froebel kindergarten system of instruction, because the occupation or study is playful practice in preparation for the serious work of the higher grades.

FIG. 31.—THE SEE-SAW EXERCISE

Both parent and child assume the ordinary standing posture, holding hands. The child then performs deep knee bending as in the illustration Fig. 31. As the child returns to the starting position the parent lowers the body by bending the knees. This exercise develops thighs and hips.

The reason I have dwelt at length on the subject of play is because every parent and pedagogue should understand the fundamental principles concerning play and exercise, as plays and games differ in individuals, seasons, sex, and age. Play will bring out individuality and develop the physical and moral nature in children as can be done in no other way.

Individuality

Each child has peculiarities of mind, temperament, disposition, and character which make it an individual problem for the parents to solve. A mother, in lamenting the failure of home discipline in rearing children, may say, "I cannot understand it, as I have treated them all exactly alike." The secret of her failure lay in the fact that she tried to open distinctly different locks with the same key. There is a difference between wax and clay, as the sun will melt one and harden the other. The parent should appeal to the child's strongest characteristic, as this is the keynote of its individuality. This strength should be used as the lever to raise its weakness.

Six romping, boisterous children in the nursery who are unruly and resist all commands to

be quiet may be stilled in a few moments by an appeal to their individuality through its dominating trait. The boy who is playing soldier by noisily beating a drum may be changed into a sentinel whose duty it is to enforce quiet in the camp. The little girl may be moved through love as in no other way, and the chord of affection in her heart vibrates in instant harmony when she hears that the noise is making mother's head ache. Another child, unmoved by such an appeal, can be reached through his pride and self-respect by placing him at the head of the army. He can be depended upon to show his soldiers how to behave. The fourth, led into joining this playful riot through the hunger of an active mind craving something definite to do, may respond instantly if this be provided. The fifth, a little girl with the housewifely instinct for order, finds satisfaction in helping mother with household duties, while the sixth may respond to an innate sense of justice as to no other appeal. Often, when one child in a family gives away all its playthings, he is praised for his generous act, while another is censured on account of cornering the toy market. Both children are wrong, just as a watch ten minutes fast and another ten minutes slow are both equally

wrong. The watches must be regulated each differently—the speed must be retarded in one and accelerated in the other. So with the two children, the former must be made to respect his duty to himself, and the latter to recognize his duty to others. An object-lesson may be gained from a simple nursery game in which two or more children are playing. The game loses interest if a child gives away point after point without striving to win. On the other hand, the players become disgusted if one tries to win or "corner" the game by cheating or lying. Children in early life do not deliberately do wrong. They are getting their moral bearings through play; they make slips and mistakes, follow the line of least resistance, and consequently should be guided and helped to self-guidance. The punishment of the child, therefore, should have but one object, viz., its good. It should be the switching of a train of moral thought from the side-track back to the main line, and the danger-signals should be explained. It is doubtful if slapping or flogging of children by parents while angry is ever productive of good. Nature has laws, and inflicts a penalty for their violation. A hot coal will burn, a live wire will shock, and a keen edge will cut. Nature does not excuse

FIG. 32.—LEG-LIFT EXERCISE

The parent should hold the hand at a certain place and have the child endeavor to lift the legs till the hand is touched. Each day hold the hand further away till the child is turning over as in Fig. 33.

on account of ignorance, but demands that one be punished for breaking her laws. The punishment is ever in terms of the law, whether it is marked in plain figures or in a cipher code which requires a knowledge of the moral key to interpret it. The child should be taught to realize this; he should know that punishment is just. If he has willfully cut or broken, he must restore in some way. The knife that carved initials on the parlor furniture must be taken away for a while; the child must be deprived of play while he tries to oil or polish the furniture in order to restore it in part to its original condition. This teaches a double lesson: he is deprived of the knife he values and he sacrifices pleasure from his play period. If he hurts, he must do his best to heal, and he must return the article that has been stolen.

Playful Exercise

The best kind of exercise for the child is that which is garbed in the form of play. This may take the form of companion exercise, in which either parent works in conjunction with the youngster, as illustrated in this chapter.

The first exercise shows good posture, which is the chief essential in common-sense play or

exercise. I find it an excellent incentive to have a girl dress up as a Girl Scout, a boy as a soldier or Boy Scout, and stand as in Figure 26. The back is against a straight wall, with head, shoulders, hips, and heels touching it. The pride of the youngster must be appealed to in gaining and maintaining an erect, graceful physique. When the body, either from neglect or fatigue, tends to droop forward, the child must constantly be reminded of the soldier or Scout till the correct posture becomes habitual. In Figure 27, the parent takes the hands of the child; the latter, keeping the body rigid, sinks backward slowly till the position of Figure 28 is reached. The child should keep its feet against those of the parent in order not to slide while going backward. From the position of Figure 28 the child keeps the body stiff while the parent raises it to the position of Figure 27. Exercises 27, 28, 29, are designed for straightening especially the muscles of the back, neck, and arms. Figure 29 is more difficult than the two preceding. The child must keep very rigid while it is being lifted to the standing position.

Exercise 30 is also a very good method of strengthening the abdominal muscles. Lift the child, as in Figure 30, then have it raise the

legs and hold the position while five are counted. At first the child will not be able to lift the legs straight forward, but will with practice.

The 31st exercise my little girl calls the see-saw. In the beginning of the movement both stand erect. The child performs a deep-knee bend, as in Figure 31, and as it comes to the starting position the parent bends, one assisting the other in maintaining the proper balance.

In Exercise 32 the child lies on its back and raises its legs. It should endeavor to bring the feet backward till the hand of the parent is touched. (See illustration, Figure 32.) This should be persevered in till the child can touch the floor with the toes, as in the following illustration.

Exercise 33 is rather difficult if the child attempts to accomplish it without the preliminary work as shown in the preceding movement. This is an excellent exercise to strengthen the abdominal muscles and keep the back muscles supple.

The last movement, Figure 34, is a competitive one, as the parent strives to touch the floor more easily than the child. It is better to let the youngster win out at first in order to encourage it. Try to touch the floor without bending the

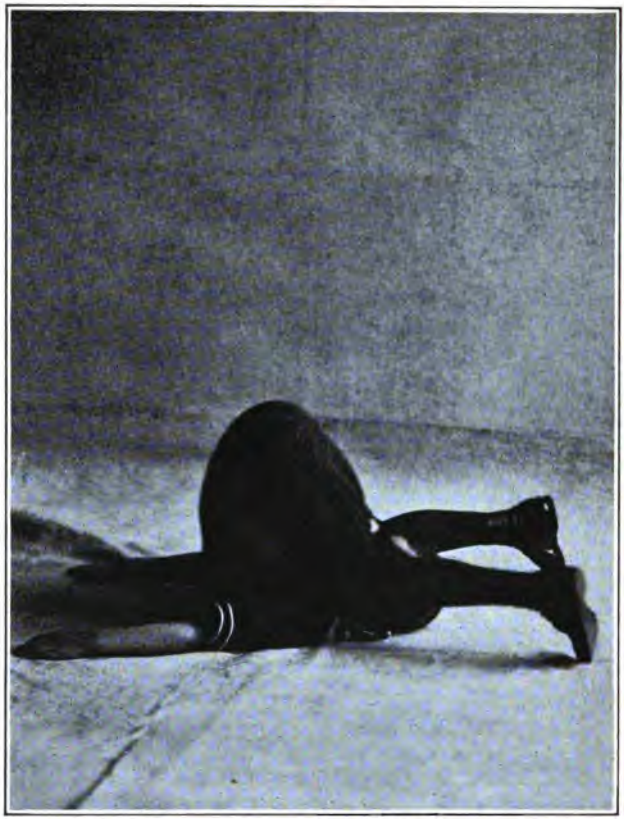

FIG. 33.—ROLY-POLY EXERCISE

The preliminary work as shown in Fig. 32 should be given before this exercise is attempted. This exercise strengthens the abdominal muscles and gives elasticity to the back muscles

knees. Some children, on account of their elasticity, can, after practice, touch the floor with the palms of the hands. In finishing these exercises raise the arms above the head, inhaling deeply, then, holding the breath, bend forward as in the last exercise, return to starting position, and exhale. Select 2 or 3 of the exercises in the chapter on deep breathing. The breathing may be made competitive, parent and child trying to outdo each other in taking a big breath.

The first day perform each exercise one time, increasing one each day for a week. At the end of a week the child will be doing each movement seven times. After this, increase each movement one time every week till twelve or fifteen times are reached, or till it is determined what amount is best suited to the child's individual needs.

These exercises are especially beneficial to the mother, doing her almost as much good as the child.

The play of the child should be well regulated by both the parent and teacher. Children with organic weaknesses should be restricted from violent and exhausting games. Prolonged competitive events are dangerous. Play or exercise

dangerous to life should be excluded or carefully controlled. Over-anxiety, a mania to win or excel, should not be mistaken for courage.

The vicious fighting element should be restrained. When a child manifests a tendency to be rude, ill-natured, or to lie and cheat, he should be promptly corrected. Ethical degeneration is far worse than all the bruises, sprains, and broken bones caused by play and games. Parents should be careful not to praise a child for a certain act one day and censure it for the same another time, as no child can run its mental or moral train of thought properly when there is such a confusion of signals.

Severe, arbitrary punishment is usually unjust and unwise. It has not proved itself an inspiration to goodness in the army and navy or in prisons. The child should always be allowed to speak in its own defense. Circumstantial evidence, which plays so cruel a part in human injustice in many criminal trials, should be carefully sifted in a nursery court-martial. By the time all the evidence is in, the judge (parent) has had time to grow calm, and make the punishment awarded later seem a natural act of justice. We see in children the image of ourselves, and quite often their naughtiness is

FIG. 34.—THE GREAT-BEND EXERCISE

Without bending the knees, encourage the child to bend forward and touch the floor as in Fig. 34. Finish the exercising by using one or two deep breathing movements as illustrated in Chapter IV.

but the reflection of our own individuality. In the teaching and punishment of the child we as parents should realize that we are merely trustees and not proprietors. This physical and mental training of the child should be started early in life, when the body and mind are very plastic. It is easier to extinguish the lighted match than the conflagration it inspires. It is easier to straighten a sapling than the gnarled oak.

CHAPTER IV

DEEP-BREATHING EXERCISES

DEEP, purposeful breathing in the open air prevents the accumulation of fat, as it acts like a pair of active bellows on a furnace fire. It quickens the digestive processes, eats up food rapidly, and quickly gets rid of waste products.

If, then, one fails to breath deeply he in like proportion fails to live correctly. The average woman needs deep breathing more than man, due to the fact that she is less active, and the breathing is necessarily more shallow. Again, the kind of dress worn by women restricts the breathing, especially in the upper part of the chest.

The average woman gives very little thought to the art of breathing, because this simple though very important process goes on constantly whether she takes note of the fact or not. She receives food into the stomach but a few times daily, while air is taken into the lungs fifteen or twenty times each minute. This air undergoes in the lungs a species of digestion,

and this process goes on without any intermission both day and night during her lifetime. She can live but a few minutes without breathing, consequently the act is one of the greatest factors in keeping fit physically.

The Breathing Organs

In order that the act of breathing may be better understood, I shall give a short review of the physiology of the chest and lungs. The lungs, or organs of respiration, with the heart between them, are situated in the thorax or chest and are separated from the stomach and intestines and other organs of the abdomen by the broad umbrella-shaped bridge, or muscle extending across the body, called the diaphragm. When one is about to inhale air, the muscular fibers in this membrane contract in such a manner as to bring the diaphragm more nearly to a level or plane than it was before, enlarging the cavity of the chest and thus causing a negative pressure, often spoken of as a "vacuum." The air rushes through the mouth and nostrils, trachea or windpipe, and bronchial tubes, to equalize the pressure in the lungs with that outside. This is called in-breathing, or inspiration. Outbreathing, or the act of expiration, is caused by

A B C

FIG. 35

From starting or fundamental position (position A), raise the shoulders and breathe in deeply as in position B. Lower the shoulders and breathe out as much air as possible as in C.

the diaphragm's being pushed upward against the lungs by the contraction of the muscles of the abdomen; the walls of the chest contract, the ribs being pulled downward by the muscles.

The size of the chest is greatly diminished by these movements, and the air is pressed out of the lungs through the air-tubes, bronchi, larynx, and nostrils. For the function of breathing, one possesses a bellows-like arrangement which alternately contracts and expands under the control of the nervous system, bearing a close analogy in its mode of action to the apparatus employed in the circulation of the blood. Each consists essentially of a kind of pump which propels one fluid, and the other air, through a series of ramified tubes, the difference being that in the lungs the inflow and outflow pipes are the same.

Although one can breathe through either the mouth or the nostrils, the latter are the natural air-passages, inasmuch as they are always open. The larynx or opening into the windpipe is situated in front of the throat, and is protected by a kind of lid, called the epiglottis, which immediately closes under the impulse of reflex nervous action whenever any particle of food or

drink is about to be swallowed. The larynx containing the vocal cords is continuous with the trachea or windpipe. The trachea divides into two branches called the bronchi. Each bronchus enters the lung on its own side and divides into a large number of small branches called bronchial tubes. In the nose the air is warmed and moistened and the coarse particles of dust, etc., are left clinging to the damp and sticky surface. In all exercises which call for deep breathing such as cycling, running, mountaineering, rowing, and most games, the breath should be taken in as much as possible through the nostrils. When the organs of breathing are forced into stronger action, the possible harm which may be done by dry, cold, or dust-laden air is correspondingly increased.

Force in Inspiration and Expiration

The lungs are not, as some seem to think, a support for the chest walls, but, on the contrary, tend to suck them in. Dr. Henry Campbell of London shows the elastic force or suction exerted by the lungs under varying degrees of expansion as follows:—

At the end of an extraordinary expiration
0 mm. Hg.

At the end of an ordinary expiration, 5 mm. Hg.

At the end of an ordinary inspiration, 10 mm. Hg.

At the end of an extraordinary inspiration, 30 mm. Hg.

The elasticity of the lungs, in fact of all the tissues of the body, tends to become less with advancing years. When the skin loses its elasticity it becomes wrinkled and on account of its being permanently stretched and no longer tightly adapting itself to the underlying structure, is thrown into folds. What is true of the skin is also true of the lungs; the elasticity and suction they exert diminish.

Many women visit the massage expert, men the barber shop, in order to have the face massaged. It is observed that massage of the face tends to keep away wrinkles, and gives a healthy glow to the skin, making its functions more active. Just as the skin may be preserved and nourished by a rich supply of blood through the agency of massage and proper care, so may the suction and elastic properties of the lungs be preserved by the "massage" or deep-breathing exercises such as are illustrated in this paper. Of course, the lungs should be carefully protected

A B C

FIG. 36

From the assumed position of hands on hips, position A, inhale deeply and raise the head as in position B. Exhale and lower the head forward as in position C.

from bronchitis, pneumonia, coughing, etc., and all straining exercises where the thorax remains fixed should be avoided.

A number of men have experimented in determining the force of the inspiratory and expiratory muscles. The early workers were Hales and Hutchinson of England, while those of more recent date are Donders and Waldenburg of Germany. This force is measured by means of a graduated U-shaped glass tube partly filled with mercury to one end of which is attached a flexible tube, which is applied to the mouth or nose. In ordinary breathing, according to Waldenburg, the mercury moves from 1 to 2 mm.; in forced breathing the movement is much greater.

In average adult men, inspiratory force varies from 80 to 100 mm. Hg., expiratory force from 100 to 130 mm. Hg. In women the former is represented by from 60 to 80 mm. Hg., the latter by from 20 to 110 mm. Hg. It will be seen by these figures that expiratory force is about one-third greater than inspiratory force.

A Chest Developer

The chest is enlarged by elevation of the ribs and the descent of the diaphragm. The eleva-

A B C

FIG. 37

From position A inhale deeply and force elbows backward as in position B. Lower head forward and bring the elbows forward as in position C, exhaling.

tion of the ribs increases the sagittal and lateral diameters and the descent of the diaphragm increases the vertical diameter.

In ordinary breathing the average person has very little rib movement especially in the upper part of the chest, respiration being chiefly abdominal. It is during fast walking, running, athletics, gymnastics, swimming, games, and special deep-breathing exercises, such as are illustrated here, that the upper diameter of the chest is brought into vigorous action. In the civilized woman it is the upper part of the chest that is mostly used, but this type of breathing is not a natural one, due to the fact that the diaphragmatic action is correspondingly curtailed on account of the restricting influence of stays which interfere with the free descent of the diaphragm and the expansion of the lower bony cage. It is for this reason, claims Gibson, an authority on the lungs, that after the age of fourteen the lower transverse diameter of the chest is less in the civilized woman than the upper, the reverse being the case in man. It naturally follows, then, if tight dress or restricting corsets are worn, that chest development will be retarded. The practice of tight lacing common among the fashionably dressed women

of a few years ago was criminal because it not only impeded proper breathing, but cramped the action of the heart, stomach, and other internal organs, and thereby injured them. Deep breathing is the best chest developer.

I found my chest larger after a two days' walk of one hundred miles than before. Athletes who do nothing but run, get a larger girth of chest. Of course, the swing of the arms assists in this, but the greater portion of the development is due to the deep breathing.

There are so many forms of breathing advocated for singers and others that one is apt to become confused. The following are some of the forms that are recommended; Clavicular, pure lower costal, lower costo-abdominal, pure abdominal, and abdominal-costal.

Each of these systems has its devotees, and I shall not try to discuss them pro and con, but shall direct attention to what I consider the best kind of deep-breathing exercises. The above systems may be better for singers, but the exercises herein illustrated are the most efficient for the woman who desires a large and elastic chest and bust.

There are some modifications in normal respiratory movements in such acts as singing,

The act of shouting is emotional. The shouting of children at play is the outcome of exuberant emotion and pent-up-neuro muscular energy and the game or play is enchanced by this outburst. When I was a physical director in the Y. M. C. A., and had more than a hundred boys between the ages of twelve and sixteen years in my charge, I often resorted to the following. When the boys were in school all day, under restraint and bubbling over with neuro-muscular energy so I could hardly get their attention, I would take out my watch and announce that I desired every boy to shout and yell for the following five minutes. It always worked like a charm. In like manner, the hurrahs of the applauding multitude, the yells of frenzied baseball fans, the cheering of spectators at a football game, may so exalt the emotion as to induce a condition bordering upon ecstasy. Shouting is an emotion that is spontaneous with both the individual and the mass and should not be repressed. Women should shout at every opportunity, and if this is denied them, singing should take its place.

Yawning is another excellent lung exercise, but is often repressed, especially in society. It seems to be an effort upon the part of nature

A B

FIG. 38

From starting position, Fig. 1, position 1, raise arms sideward as in position A, inhaling. Bring arms forward and lower head forward as in position B, exhaling. Lower arms and repeat.

Talking is an act that is beneficial especially to the lungs. The nervous energy underlying thought is discharged to the muscles involved in speech and gesture. Both voice and gesture can be modified to convey subtile shades of thought and feeling, which cannot find expression in writing. Talking then is stimulating in proportion to the gesture accompanying it. We can see how impressive gesture is in the movement of the arm in the German and the shrug of the shoulder in the Frenchman, the minister and the public speaker, in order to emphasize what is being said, and they thereby get more physical exercise than one would suppose.

School teachers and those who use the voice much during the day need less physical training than others. In fact, few things are more calculated to stimulate the body or to arouse it from lethargy than animated conversation. In talking as in laughing, singing, shouting and crying, in-breathing is short, while out-breathing is prolonged, and this is an excellent form of lung gymnastics. Dr. Campbell claims that talking is conducive to longevity.

A B

FIG. 39

From position A, hands behind neck, head lowered forward and elbows forward, inhale deeply as elbows are forced backward and head raised as in position B. Exhale from B to A position.

Its Effects and the Best Kind of Exercises

Deep breathing highly oxygenates the blood and eliminates waste products from the body. There is an exchange of gases which takes place between the capillaries and the tissues in which the blood from the lungs parts with its oxygen and absorbs carbon dioxide which is thrown out in the breath. The brain is affected by deep breathing as is shown by its tendency to cause giddiness, but this feeling soon wears off in those who cultivate the habit.

W. Marcet, M. D., F. R. S., says that deep breathing increases the power of sustained nervous effort. He claims that a man who in ordinary breathing lifted a weight of four pounds two hundred times in succession after a rest and deep breathing for two minutes lifted the same weight seven hundred times.

Deep breathing quiets the nerves and is useful in neurasthenia as it increases the will power. When troubled with insomnia I have secured sleep by going to an open window and taking deep breaths for five minutes. I know of many others whom the same treatment helped.

Deep breathing will very often relieve constipation and indigestion, due to the vigorous rise

A B C

FIG. 40

From position A, knee bending, arms forward, inhale deeply as the upright position is assumed, arms sideward, position B. From position B. exhale, deep knee bend, arms forward. as in C.

and fall of the diaphragm. Add to this the influence of powerfully oxygenated blood, and the intestines perform their peristaltic movements, which are necessary for digestion, with more energy.

Exercise is especially effective in relieving constipation. In medical gymnastics, deep-breathing exercises are used in anæmia, nervous and digestive disorders of the circulation.

Now for the exercises. In deep-breathing exercises we should aim for the following results: to strength the muscles of ordinary breathing, as the diaphragm; to strengthen the extra muscles of breathing such as those of the shoulders, arms, and back. We should endeavor to preserve and increase the elasticity of the lungs, to develop evenly all their parts, to heighten permanently their capacity. Still other objects should be to expand the chest, to deepen the ordinary breathing and reduce its rate, and stimulate the circulation of the blood. There are thousands of air cells in the lungs that ordinarily are inactive and are used only in the act of deep breathing. If one persists in deep breathing for some time these dormant cells eventually associate in the ordinary act of breathing.

A B

FIG. 41

Hands clasped across abdomen, inhale and press in forcibly as in position A. Exhale and release as in position B. Perform each of the seven deep breathing exercises from five to ten times each.

The best deep-breathing exercises are those that are accompanied by muscular positions and movements which favor or assist the act of in-breathing and out-breathing. Authorities differ as to whether or not more air is received in the lungs in the various muscular movements which I have used in this article. While they are fighting it out we shall use the arms, head, shoulders, etc., in connection with deep breathing, because these movements do strengthen the muscles required in this act, and give the results that we are seeking.

Some physical culturists advocate taking a deep breath and holding it for a considerable time. I can see no good results from this method, but rather an injury as the lungs are liable to strain, and again, this would mean the reabsorption of air that should be expelled. Of course, holding the breath a few seconds, as in singing, and laughing, or bending forward, as in Fig. 12, Chapter I is not injurious, but rather beneficial.

You will observe that the muscular positions tend to favor the inspiration during the in-breathing, and to contract the chest during the out-breathing, in order to expel more air in the ordinary expiration. If the lungs become sore or

if you get dizzy at first, decrease the amount. I am leaving the amount of exercise that should be performed daily to your judgment, just as you must determine the amount of food that you should eat. The best time to do your deep breathing is in the morning before dressing, as tight or encumbering dress restricts freedom of motion. Any time, however, is better than the omission of these lung gymnastics. During the day, when the chest feels cramped, go to an open window, practice one or two of these exercises, and you will be surprised at the refreshed feeling.

Now, in closing, let me say a word concerning fresh air. It is as important to get this as it is to breathe deeply. Be sure you have plenty of fresh air during sleeping hours. There will be difficulties to overcome in the sleeping apartment during the winter, but if you realize that fresh air is very necessary, your ingenuity will solve the problem. Re-read this chapter, start the breathing exercises, practice them six months, and, well, I shall let you pass your own judgment regarding their merit.

CHAPTER V

ADDITIONAL METHODS FOR KEEPING FIT

THE first thing to consider in keeping physically fit is a look forward to the welfare of the succeeding generation. In other words, the all important thing is to be well born.

This being well born, or the new movement called "Eugenics," is an application of modern science to improve the race. It is not, as some seem to think, anything like the old Spartan practice of infanticide, but, as the Greek derivation of the word shows, the science of right breeding. Sir Francis Galton invented the word to express his ideal for founding a world movement to improve mankind. Eugenics does not propose to do violence to any humanitarian or Christian effort nor does it sanction "compulsory or government-made marriages." It does, however, advocate proper mating and love marriages. When men and women come to see and admire, as in ancient Greece, the ideally physical perfect they will fall in love on that basis and not through ambition to acquire property or title. The farmer selects the best seed for

propagation and the best livestock for breeding. In like manner intelligent thought should be given to the birth and rearing of the child. Parents should be well mated, healthy, and strong, in order to produce vigorous children.

If a child's bodily foundation is weakened on account of heredity it means that much of the child's future life will be spent in propping up and fortifying weak parts in order to ward off a tendency to sickness and disease and, in some cases, even to keep alive. The child's fitness up to the time it is capable of doing things for itself should be governed by its parents. Special pains should be taken to inform the child concerning things of a sexual nature. If the parent does not impart this knowledge, then it will come from the street or some other vicious or questionable quarter. The so-called modesty which withholds untainted sexual instruction from the child is farcical and nothing short of criminal negligence. Rather than omit this duty entirely I should even advocate that a father inform his daughter or a mother her son.

In sex hygiene "a little knowledge is a dangerous thing," and the parent should not stop with partial instruction, enough to cause inquisitiveness, but should discuss the subject thoroughly

and with tact. If to be forewarned is to be forearmed, then let us give the child those implements of warfare in the form of sound and wholesome advice, experience which we adults have gained in the hard and exacting school of experience, in order that the child may be able to defend itself against immoral contagion. The saying "Where ignorance is bliss it is folly to be wise" is misleading because the American child is wise concerning things of a sexual character in most cases before he reaches his teens.

The American parent as a rule does not teach the child and so the subject of sexual hygiene should be taught in the school or college. I would not for a moment, however, advocate that the ordinary teacher impart this knowledge. Just as specially trained physical directors and medical inspectors are employed in the school system, so should sexual hygiene be taught by a specialist. Systematic instruction in sexual hygiene would go far to solve our present and complex divorce problem. The granting of divorces has been growing steadily for the past decade. In the community at large there is a divorce for every eleven marriages. Among graduates of women's colleges the percentage of divorces has been very low. In Smith College,

but one in eighty-seven graduates have gone through the divorce courts and Vassar claims an even smaller percentage. It is true also that the percentage of divorces among men graduates is less than among men in general. Scarcely any college class has a divorce for each eleven marriages, and any list of alumni as a whole is far below the general average.

If sexual hygiene were taught to our children in school or in college they would avoid those follies of youth that are so apt to produce a life of disease and distress ever after. Ex-President of Harvard, Dr. Charles W. Eliot, believes that in order to prevent disasters to the young that arise from ignorance, systematic instruction should be given. "The policy of silence" says Dr. Eliot, "has failed everywhere. If anyone protests that this educational process will abolish innocence and make a matter of common talk the tenderest and most intimate concerns in human life, let him consider that virtue and not innocence is manifestly God's object and end for humanity."

Good Eating and Drinking

The next condition in keeping fit is the formation and cultivation of proper habits. There are

so many theories concerning our dietary that one is apt to become confused. Some advocate fasting from one to thirty days. Others believe that we cannot eat too much, while still others favor diets exclusively of flesh or vegetables or raw foods. While the statement of Thomas Jefferson that "No man when he comes to die will ever repent of having eaten too little," is very true, still the fasting enthusiast is usually an extremist and may do irreparable injury to his nervous system. Upton Sinclair and other writers have recently so eulogized the fast that it has almost become a fad, and a dangerous one, especially when employed without careful medical advice and supervision.

Food is an essential to life and the body is constantly using up material. If food is withheld the body will consume itself and thereby lose weight. The effects of this consumption of the body tissues to supply the necessary demand for food are well known among the medical profession, for they have been carefully studied in certain diseases in which the body consumes itself, such as diabetes. In advanced stages of this disease the body lacks the ability to utilize ordinary food to such a degree that for the maintenance of life it is compelled to draw upon the

muscles and other tissues for sustenance. The studies that have been made of these conditions have shown that whenever the body is compelled to feed upon itself, certain deadly poisons are formed which have a most deleterious effect, and when produced in sufficient quantity, result in death. A rest of the digestive apparatus for a meal or even a day may produce good results in certain stages of obesity or in indigestion, but the better plan would be to reduce the amount and the kind of food. Why should one throw away forty or fifty pounds of good sound tissue for the purpose of eliminating two pounds of waste. The price is too great and the experiment too dangerous.

Woods Hutchinson, M. D., claims that the body does not absorb more wholesome food than is good for it, and that what is not needed is thrown off by the organs of elimination. He epigrammatically claims that "Man biologically considered, is nothing but a stomach and its appendages. The stomach is the real seat of the emotions, and the physiologic home of the soul. As with money on a journey, to have enough you must always have too much." Solomon was a wise old man and put overeating (gluttony) and drunkenness in the same class,

stating that these would result in poverty (Prov. 23:21). Overeating, like any other bad habit, grows on one, and Holy Writ again informs us that Esau sold his birthright for a bowl of pottage. Just think of a man selling his inheritance for one overindulgence at the festive board. In overeating where can one draw the line, how much may he eat? Too much of anything is *too much* and especially is this true of eating, as can be seen in the increase of diseases due to faulty metabolism or errors of eating, while on the other hand contagious diseases are decreasing.

Dr. Hutchinson further contends that the frugal poor have the highest death rate, a phenomenon due to the dangers of underfeeding. The mortality of the poor is greater than among the more fortunate. Undereating may raise the death rate, but improper eating of greasy, ill prepared foods, together with an unhygienic, congested environment is much more responsible for this condition.

Sir Lauder Brunton of England says: "More people in this country shorten their lives by overeating than by starvation, and an unnecessary excess of animal food not only leads to physical disorders, but to an irritable and irascible

frame of mind." This is just as true in America. No sensible person will contest the statement that over-activity of an organ may be followed by its exhaustion. This is what happens when great quantities of food are eaten. The stomach, liver, kidneys, pancreas, and intestines become exhausted and these instead of eliminating certain poisons throw them out into the system, causing disease. The proverb of the early Romans that "Everything in excess becomes a vice" is especially applicable to overeating and overdrinking.

Doctor Harvey, discoverer of the circulation of the blood, in his report on the autopsy of Thomas Parr of England who is said to have lived to the age of one hundred and fifty-two years and nine months, attributed his death to the change from his frugal diet of cheese, milk in every form, and coarse hard bread, to the rich feeding he received in London. The present life free from care, owing to its simplicity, contributed to his very advanced age or, as Harvey pithily put it, "sorry fare, but free from care."

In contrast to Parr, Conarro became ill at forty through immoderate living. He recovered his health by reducing his food to the necessary amount only and then lived, happy and healthy,

to one hundred years. Horace Fletcher and others have recovered their health through moderation in eating after having come near to death by excesses.

Professor Bouchard, the eminent French physiologist, shows that combustion in the body gives rise to the same ultimate products as burning outside of the body, that the system is a great factory of poisons. Bread, potatoes or fat burned in a furnace produce not only heat but smoke, ashes, and possibly imperfectly burned products. The same products are found when foods are burned in the body. Poisonous gases such as carbon dioxide are carried off by the lungs. The ashes are carried off by the kidneys, while imperfectly burned products corresponding to the cinders, ashes, and clinkers of coal or wood, may be left in the tissues causing mischief later. A fire choked with ashes as in overeating does not draw well and burns with difficulty. This residuum may, in the case of the human furnace, result in an excess of fat. I cannot see the sense of carrying around fifty or more pounds of "excess baggage"—superfluous flesh. The fire may go out for two causes. Either it needs fuel, as in fasting, or it is choked, as in overeating.

All articles of diet can be classified under three principal heads,—proteids, carbohydrates, and fats.

If the average man weighing 150 pounds requires about sixty grammes (2 ounces) of protein a day, the hardest working person would not require more than double that amount or four ounces. According to these figures we are nearly all eating too much protein and with serious results. The proteins are the structure-builders of the body. They are comparable to the iron and steel that are used from time to time to repair the engine and replace worn parts of the locomotive, while the starches, fats, and sugars, are the coal that feeds it. The body is unable to store up proteins. When one eats more of this substance than is daily required to replenish the waste of the body, it must be immediately split up in the system, and its irritating ashes (poisons) carried off by the eliminating organs. The overeating of sugars, starches, or fats, is not such a serious matter because they may accumulate as fat or add extra fuel to the fires of the body.

One may, while not overeating as far as bulk of food is concerned, still be overfed in proteins. The low protein diet is better as it favors re-

covery from many diseases such as rheumatism, neuralgia, sick headaches, biliousness and many forms of indigestion and constipation. It also increases the resistance of the body to disease and other poisonous influences. As so little protein is required in our dietary we can very profitably dispense with meat entirely especially in the summer time. Meat may be replaced by milk which in healthy stomachs and intestines is very easily absorbed. Again milk contains in a wonderful combination all the three main groups of foods.

Proper chewing of food is one of the great secrets of good digestion. I believe in "Fletcherism" but not to the extent of chewing the food till it becomes liquid or, as someone has said, "till it swallows itself." The idea of perfect mastication may be carried too far, as in the rejecting or refusing to swallow bits of fruit, vegetable, or cereal pulp that cannot be completely liquefied. The cellulose matter contained in food is quite necessary in order to increase intestinal activity. Foods such as meats, which are completely digested and leave no residue, are constipating. One's diet should consist of a laxative and a bulky food. Those of a laxative nature are baked apples, pears, tomatoes, barley,

cherries, grapes, prunes, peaches, strawberries, raspberries, currants, green corn, figs, dates, oatmeal, plums, grape fruit, and rhubarb. Foods which contain bulk and relieve constipation are lettuce, celery, carrots, turnips, raw cabbage, asparagus, cauliflower, and sterilized bran. Foods which are both bulk and laxative are whole wheat bread, spinach, dandelion, and pineapples. We need bulk just as the horse requires hay. Too much chewing (Fletcherizing) or a too concentrated diet, will make a man, like a horse, "go stale."

The diet of the "faddist" should be cautiously approached and would be better shunned. The normal appetite is a trustworthy guide, and what one craves is usually what one ought to have. The Eskimo, for instance, requires an enormous amount of hydrocarbons in order to keep up bodily heat, and so he consumes great quantities of seal oil and whale blubber. In contrast, the inhabitant of the tropical climate finds heat-producing food superfluous, and subsists largely on fruits and grains. If the child demand candy it should be supplied in a wholesome form such as sugar and fruit.

The most practical diet for the system is a little of everything and not too much of any one

article of food. Chew the food thoroughly and omit those things which experience has shown to be harmful. It requires about four hours to digest a meal and we should not eat oftener than every six hours in order to give the digestive apparatus a couple of hours' rest, and the ten-minute rest before and after a meal is a digestive aid.

Water is one of the principal bodily constituents. It is the agent for dissolving and removing waste products, and the average person should drink from six to ten glasses a day, one or two upon rising and retiring, and before each meal. Too much liquid during the meal, however, dilutes the digestive juices and retards digestion.

Exercise, Air, Bathing, Rest, and Sleep

The best kind of physical exercise that one can indulge in is that which is pleasing, easy, beneficial, and safe. The more one enters into the spirit of the exercise the greater the results both to mind and body. Exercise may be classified, according to ago, as follows:

Bowling, cricket, golf, horseback riding, swimming, and walking, may be indulged in freely between the ages of twelve and sixty;

boxing, wrestling, mountain climbing, and rowing, from sixteen to forty. Calisthenics or "free gymnastics" may be included in the first classification as they do not unduly tax any group of muscles. Walking as an exercise is second to none, as a six-mile daily walk is equivalent to the lifting of 150 tons one foot high, from the standpoint of physics. Swimming develops every muscle, educates the coördinative powers, and as an accomplishment it may mean the saving of a life. Daily exercise out of doors sharpens the appetite, quickens the digestion, and increases the circulation of the blood. Outside of the realm of diet, no other element has so great an influence upon bodily nutrition as exercise.

Good Air

A constant supply of fresh air is the most important of the needs of the human body. One would think that eating and dressing were paramount on account of the attention given them, whereas were the process of breathing interfered with for but five minutes, one would die. The air should be pure as well as fresh. The problem that confronts the builder of to-day is to construct houses and public places so that the rooms may be constantly flushed with fresh pure air.

In the long ago, man breathed in the open air as did other animals. Later he took to caves, which, becoming more elaborate with rooms cut in the rock, developed eventually into the modern apartment. Men will never return to the primitive method of living in the open any more than he will assume the walk of the quadruped. Almost every person knows that stagnant water is impure and will refuse to drink it under ordinary circumstances. Stagnant air is just as harmful, yet few people insist in like manner in avoiding it. From four to five hours should be spent in the open air daily where possible. As most of us in the cities cannot do this, then our sleeping apartments should have a constant supply of fresh air. The sleeping porch, sleeping with the head out of the window, the use of the window tent and other devices, will be employed for fresh air sleeping if we realize we need pure air and then use our ingenuity to get it.

Good Bathing

In order to keep fit one must practice daily bathing. When one stops to consider that there are about two and a half millions of sweat glands in the skin, which, if placed end to end, would

form a body sewer more than ten miles long, it behooves him to keep those glands open by daily cleansing. While the skin is a protective covering for the body, it is also a functionating organ as it is richly supplied with blood vessels and nerves that exert a powerful influence upon the body for health or disease.

The cool bath taken in the morning after a little exercise is a tonic to the entire system. It is one of the best known methods to avoid colds. By frequent cold baths, the skin becomes accustomed to the low temperature, and drafts or sudden exposure are unable to disturb the circulation of the blood. There is no one curative agency better for neurasthenia than cold water bathing. The neurotic patient, however, if anæmic or under weight, should take the bath in a well-heated room, with just a quick dash of water in the tub, or a second or two, under a cold shower. The method I like best, considering on account of time and efficiency, is to kneel forward in a bath tub and pour a pitcher of water upon the back of the neck allowing it to run down the spine. Then bend backward and pour it on the chest. If one feels chilly or the lips appear blue, the bath has been too cold and should be tempered to the requirements of each individual

constitution. Some think they cannot learn to take the cold bath, but I have known very weak persons to do so with marked results, by following the method I describe here. Begin to take the morning bath in July with water as it comes from the water-pipes. Continue this daily all summer and fall and you will find that you have gradually become hardened to the effects of the water as it gradually becomes colder during the fall months.

There are certain forms of organic trouble where the cold bath would be undesirable and the advice of the family physician should always be sought in those cases.

Good Rest and Sleep

In chronic fatigue, in neurasthenia, or in physical or mental exhaustion, the body requires rest. Rest then is an excellent way to alleviate fatigue as moderation in work is the best way to avoid overfatigue. Letting up on one's work or complete cessation of work will not always bring the desired results as the cause will have to be found and combated. Overeating, indulgence in a diet too rich in proteids, free drinking of alcoholic liquors, tea, coffee, the use of condiments, tobacco, patent medicines, and

failure to secure exercise, bathing, rest and sleep, are causes of poisons.

The air in the bedroom should be as cool and pure as possible and the bed clothes should never be put over the mouth. A night spent in a room that is too warm never gives the feeling of freshness and comfort that follows a sleep in a cool room. The sleep is likely to be fitful and one will arise with a feeling of heaviness in the head and a sensation of languor throughout the body. Persons suffering with insomnia should devote their evenings to light occupations, avoiding visits to places that cause any source of undue pressure on the nervous system. People leading a sedentary life should take a walk after supper. A warm bath before retiring will tend to induce sleep, and often a hot foot bath will be found sufficient. Those who suffer from insomnia should not eat a hearty supper, for an overburdened stomach tends to produce nightmare. I have often induced sleep by tiring the eye. This may be done by gazing upward for some time as if one were trying to see the forehead. Bags or pillows stuffed with pine needles or hops are soothing and tend to induce sleep.

The ideal sleeping posture is that in which the body reclines on the right side. Sleeping

on the back, especially in the forepart of the night, causing mouth breathing, snoring, nightmare, dry throat, and prevents the free flow of blood from the head. One should learn to sleep by turns, first on the right side, then on the left, the back, and finally the abdomen. The sleeping apartment should be dark and free from any disturbing noises. In health, one requires about eight hours' sleep, while the neurotic or anæmic should have from eight to twelve. If the body gets the right amount of rest it possesses the power of automatic repair. An occasional vacation from business is beneficial. One day of real rest is necessary in order to keep the human mechanism in good working condition for the week's work. Saturday should be a national holiday given over to sports, recreation, and pleasure. More and better work can be performed in five days when one is physically fit than in six days when one is unfit.

CHAPTER VI

MIND VS. BODY

THAT the mind dominates the actions and expressions of the body is conceded by all writers of note who have made a study of the subject. Francis Warner, M. D., in his book on "Physical Expression" says, "Mind is the highest faculty of man. What mind is, we do not know, and probably we cannot know; but there is abundant evidence that mind is in some way connected with brain action."

The body is to a large extent fashioned and molded by the thought. If one entertains certain thoughts or experiences certain emotions, they may have an effect upon his body that will prove beyond the power of his will to control. For illustration: A man suffering from grief may command his features, but he cannot always prevent tears from coming into his eyes. If tempting food is placed before one, he may not show his hunger by any outward sign, but he cannot check the flow of saliva. Grief and low spirits cause the corners of the mouth to droop and betray the state of the mind to the

observer. A pessimistic person will eventually wear this "sign," on his face continually because he is always looking at the world through blue spectacles.

The Face as a Signboard

On the contrary a bright and sparkling eye with a raised tendency of the cheeks and upper lip is characteristic of a pleased, contented state of mind. Persons who give way to their emotions will eventually reveal, by the different facial muscles, their dispositions. The lines or furrows on the face, due to their habitual contraction, will be rendered deeper and more conspicuous. The expression of the countenance, such as a frown, ofttimes reveals the thoughts and intentions more truly than do words. The free expression by outward signs of an emotion intensifies it, while the repression, as far as possible, will tend to soften and subdue it. These results follow partly from the intimate relation that exists between almost all the emotions and their outward manifestation, and partly from the direct influence of exertion on the heart and brain.

Claude Bernard, a great physiologist, claims that the least excitement of the nerves reacts

on the heart, that when the heart is affected it reacts on the brain, and the state of the brain again reacts, through the pneumogastric nerve, on the heart. This goes to prove that under any excitement or emotion there will be much mutual action and reaction between these, the two most important organs of the body. How careful, then, one should be of his thoughts and imagination and not allow them to tend toward evil or disease. The face evidently sympathizes with the thoughts, for one who constantly thinks of illicit things or lives an immoral life soon begets a sensuous eye and an impudent face. A criminal usually has the hard, repulsive lines of sin written on his countenance. High and lofty thoughts endow the face with a halo of joy and peace.

The state of mind affects the physique of the individual as can be readily seen in the havoc such emotions as fear, worry, jealousy and anger play upon the constitution, whereas love, hope, joy, and contentment, conduce to happiness and thereby raise the health tone. As a rule the attainment of the heart's desire improves health and happiness. Many individuals lacking energy and determination have suddenly aroused dormant powers to activity and gained unex-

pected health upon obtaining unlooked for success.

The same is true of persons who have lost wealth and have been forced to do what they previously considered impossible, though loss of wealth and other misfortunes often have an opposite effect. The following illustration shows how success may act as a powerful stimulant, while failure is often a great depressant. It is said that a poor man once went to hang himself, but changed his mind, flung away the rope and went hurriedly home, because he found a vessel full of gold pieces. The man who had hidden the gold, when he discovered its loss, hanged himself with the rope which the other man left.

Sick Thoughts Lead to Disease

Sick thoughts, such as worry and melancholy, lead to disease. Some persons render themselves easy victims to the Great Destroyer by looking for symptoms of some dreaded disease and forming mental pictures of its every feature, instead of guarding against disease by changing the train of thought toward other subjects. Many have contracted consumption and died of it simply because the conviction had always

been thrust upon them that they would die of this disease because their parents did; whereas, had they chosen outdoor work, exerted their will power, hardened the constitution by proper eating, drinking, bathing, and by deep breathing, they would in all probability have been strong and robust.

A shooting piece may be loaded with powder, ball, etc., and not go off for a century. It is only when the powder is ignited that the gun is discharged. One may be susceptible to consumption and live a natural lifetime without even a symptom of the disease. It is only when the spark of indiscretion or unhygienic living is applied that there is danger. Then the disease may fan itself into a flame till it burns out the life of its victim. Persons who have a hereditary tendency toward certain diseases should avoid all thoughts of these and banish even the suggestion of others regarding them, and live above the health mark. It is when one's system gets below par, beneath the health mark, that diseases like vultures creep in to rob one of the health that it is his privilege to enjoy.

Fear and worry might be called twin emotions. Where fear is, worry is apt to be in close proximity, and vice versa, and both leave their effect

upon the physique. Fear is a primary instinct and is eminently useful. It is the cry of alarm raised by the senses which act as bodily protection, consequently the organism, through the nervous system, assumes a position of defense. The cat fears the bark of a dog. The weaker animals fear the stronger and it is revealed in the nervous clutch of a new-born babe. The fear of ghosts and demons in the ignorant vanishes with the advance of education only to be replaced and intensified in the educated by the fear of microbes and bacteria. Stanley Hall says, "The pedagogic problem is not to eliminate fear, but to gauge it to the power of proper reaction." We should fear to do evil, fear to be cowardly, jealous, and *will* to eliminate morbid fears. We die a thousand deaths in imagining our dissolution in all its hideous forms. We contract sickness and disease in dwelling upon our subnormal fears. Death is like the interruption of consciousness which we call sleep, but we have transformed it into a hideous nightmare by our degrading fears.

Constant or intense fear has resulted in disease and death. The result of fear plus imagination is shown in the following illustration: A case was reported a few years ago by physi-

cians of a poor woman in Paris who was bitten by a dog near Notre Dame and taken to the Hotel Dieu, where the wound was cauterized. A student met her in the street a few months afterwards and evidenced surprise to see her alive. He informed her that the dog which bit her had been mad. Immediately the poor woman was seized with spasms of the most violent kind. Doctor Buoquoy was at once summoned, but he could do nothing, and the woman soon died.

Worry is a life shortener. If what Professor James of Harvard says is true, "Every small stroke of vice or virtue leaves its ever so little scar," then every emotion has the same effect upon one's mind. Some persons must surely have a badly scarred, warped, shrivelled up mind, as they worry over past mistakes, follies, and sins. They are troubled constantly not only with the present sorrows, but with the imaginary fears of what might have been and they forecast the future with a gloom and pessimism that leads to sickness and disease.

Love and Hope

The influence of love upon the personality of an individual tends to health and longevity.

Love of kindred, of friends, of benefactors, of home and country all have a similar effect. It is one of the most active principles of our nature and should be cultivated. Love sustains the weary mother during the long and anxious night of watching by the couch of her suffering child. She may be nearly famished, still she divides her last morsel of bread. Perishing with cold, she draws the mantle from her own shoulders to protect the little one at her side from the fury of the elements. The benefactor in his love for suffering humanity divides his wealth, and we love him for the sacrifice and consideration. A man of noble character will protect and even die for a friend as will one who loves his country, and we are thereby helped by the ennobling influence of their deeds. Love of home does away with divorce and its members dwell together in unity. Love is the father of the social virtues, and peoples the world with a pure thinking, pure speaking, and pure acting race of men and women as its descendants.

The influence of hope upon the health is universally felt and recognized as one of the most powerful and permanent emotions that makes us what we are. A strong mind always hopes, and has cause to hope, because it understands

the mutability of human affairs, and knows how slight a circumstance may change the whole course of events. Everything in life may be lost, but hope by its own durability and worth saves itself. Hope awakens the courage, while despondency is the last of all evils. It abandons the good, thus giving up the battle of life with a resultant dead nothingness. He who implants hope and courage in the mind of another is a helpful physician. Our hopes are not all realized, but still we hope. This emotion may have a good appetite for breakfast, but indigestion may ensue before nightfall. It is a great calculator, but a bad mathematician. It builds castles in the air, and still continues to hope as they tumble about its feet. It plays with bubbles as a child with his clay pipe and soapsuds, and, when they burst, it still remains buoyant, undecayed and unchangeable.

A Strong and Vigorous Will

No one thing can contribute more to physical fitness than the influence of a strong and vigorous will. Will is the mind itself, willing, or having power to will, and not something distinct from the mind, therefore the power to will comes by willing just as the power to think

comes by thinking. The fatalist to the contrary claims that man has no power to change the current of his own inclinations, nor yet to go against that current. He has power to do as he wills, but no power over the volitions themselves. He has no inclination to do right, therefore no power to do so. A true psychology says that this statement is fallacious, because inclination is not a fixed quantity. It is subject to change, ought to change, and in many respects is constantly changing.

We can fight off many of the minor ills of life by exercising our will power. It is the multiplicity of minor ailments which often results in the major diseases. Theatrical people must always have a good stock of will power on hand on account of the ups and downs of a stage life. "No, we do not get sick," remarked an actor, "because we have not the time. Patti and a few other stars can afford that luxury, but to the majority of us it is denied. There are times, however, that, had I been at home or a man in private life, I could have taken to my bed with as good a right to be sick as anyone ever had. I know that will power is an excellent tonic, as I have turned aside these attacks through sheer necessity."

At the age of fifty-five, Sir Walter Scott was deeply in debt. He was far from being well, but resolved to pay every dollar he owed. The resolution gave new courage to every faculty of the mind and every function of the body, and they rushed to the rescue under this stimulus. The man lived on and the debt was paid. "It is wonderful," said Frederick W. Robertson, England's great preacher, "how views of life depend upon exercise and right management of the physical constitution."

Douglas Jerrold was told by his physician that he must die. "What," said he, "die and leave a family of helpless children? I will not die." He lived for many years after the above statement. "I always find something to keep me busy," replied Peter Cooper, when asked how he preserved so well his strength of body and mind. "To be constantly doing something is the best medicine one can take. I run up and down stairs here almost as easily as I did years ago, when I never expected that my term would run into the nineties." Seneca had an almost fatal disease, but he said, "The thought of my father, who could not have sustained such a blow, restrained me and I commanded myself to live," and he did live. "Youth will never

live to age," says Sidney, "unless they keep themselves in health with exercise, and in heart with joyfulness." The body is dependent on a strong and vigorous will, and the mind on physical fitness.

A strong, vigorous will is the balance wheel that steadies all the movements and functions of the body and mind, and gives to one the physical poise that is necessary for good health. The will power is the great executive in the republic of the brain, and if this ruler be weak and vacillating, there will be no order or harmony in mind or body. He who has the power of concentrating his attention and controlling his will can emancipate himself from most of the minor miseries of life. He may have much cause for anxiety, his body may be the seat of severe suffering, and yet his mind will remain serene and unaffected, he may triumph over care and pain. Seneca said, "It is part of the cure to wish to be cured." If one wishes to be strong and healthy, that itself is an evidence that he can become so if he lives rightly. If one has sufficient will power to live, despite the fact that his body is racked with pain and disease, he has enough power to regain health if rational methods be employed. The man who is continually telling others about

his ailments should not be surprised if they become chronic. Physicians claim that perfect health is impossible to the self-dissector—to the person ever seeking to discover symptoms that indicate disease. Neurasthenia and other nervous disorders are aggravated and intensified by poring over medical works relating to these diseases, and by comparing notes with others who are similarly afflicted.

How shall this strength of will which is so desirable in dominating weakness and disease, so essential to true greatness and nobleness of character, be attained? In part, it is the gift of nature, doubtless the result of that physical and mental constitution with which some are more fortunately endowed, in greater part it is an accomplishment possible of attainment just like any other mental or physical accomplishment, by careful thought and training. Strength of character consists of two things, power of will, and power of self-restraint. It requires two things, therefore, for its existence, strong feelings and strong command over them. We are all at times subjected to worry, fear, and anger and sickness, but we should strive through the influence of the will to replace these with thoughts of kindness, charity, love, hope, and

health. If we do this, we not only become more physically fit, but also prove a source of inspiration and help to the weaker ones with whom we come in daily contact.

Give to the child of to-morrow the right of being well-born. Keep him within the great laws of hygiene and health until he is able to care for himself. Eat moderately of substantial foods. Drink water freely. Exercise daily if your exercise be but an hour's walk in the open air. Keep the body clean by sun, air, and water bathing. Get plenty of sleep, and relax whenever possible during the day. Take an occasional vacation, and avoid stimulants and narcotics. Cultivate a cheerful and peaceful frame of mind, and learn to control enervating emotions such as worry, fear, discontent, and anger. There may be other considerations, but these simple factors will keep you physically fit and enable you to carry youth to the borderland of a second century.

Printed in the United States of America.

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By HARRY H. MOORE

With an Introduction by Clark W. Hetherington, Ph. D.
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Cloth, 12mo, $.75

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